TOWN OF BLUFFTON





MEETING DATE:	January 27, 2016		
PROJECT:	Nissan & Infiniti Dealerships – Certificate of Appropriateness – Highway Corridor Overlay		
PROJECT MANAGER:	Erin Schumacher, AICP, Senior Planner		

<u>APPLICATION REQUEST:</u> The Applicant, JJL, Inc., requests that the Planning Commission approve the following application:

1. **COFA-12-15-9448.** A Certificate of Appropriateness to allow the development of two car dealerships consisting of two buildings ranging in size from 18,000 SF to 25,000 SF and associated site improvements on approximately 11 acres of property fronting US Highway Route 278, zoned Buckwalter PUD within the Buckwalter Business Park Master Plan.

<u>INTRODUCTION:</u> The conceptual plan for the Buckwalter PUD was approved by Bluffton Town Council in April 19, 2000. As approved, the plan organized the 5,615-acre Buckwalter tract into planning areas to provide for the regulation and arrangement of land uses as well as the allotment of densities. As such, the parcel in question is located within the Buckwalter Business Park Master Plan planning area which was approved by Town Council on July 11, 2001 with conditions.

The Applicant is proposing the development of two car dealerships, Nissan and Infiniti, with buildings of 25,000 SF and 18,000 SF respectively and the associated site improvements.

The Applicant is requesting approval of a Certificate of Appropriateness – Highway Corridor Overlay application which is subject to review by the Planning Commission providing authority over the architectural, landscaping, and lighting design only.

The Applicant is concurrently in the Preliminary Development Plan and (minor) Master Plan Amendment approval process subject to review and approval by the Town of Bluffton Development Review Committee (DRC). The Preliminary Development Plan and Master Plan Amendment have been submitted and comments were provided to the applicant at the December 22nd DRC meeting. The Applicant must fulfill any comments associated with the approval to complete the process.

<u>PLANNING COMMISSION ACTIONS:</u> As granted by the powers and duties set forth in Section 2.2.6.C.6. of the Unified Development Ordinance, the Planning Commission has the authority to take the following actions with respect to this application:

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- 1. Approve the application as submitted by the Applicant;
- 2. Approve the application with conditions; or
- 3. Deny the application as submitted by the Applicant.

REVIEW CRITERIA & ANALYSIS: Town Staff and the Planning Commission are required to consider the criteria set forth in Section 3.17.3 of the Unified Development Ordinance in assessing an application for a Certificate of Appropriateness- HCO. These criteria are provided below followed by a Staff Finding based upon review of the application submittals to date.

- 1. <u>Section 3.17.3.A.</u> The proposed development must be in conformance with applicable landscaping, lighting, and architectural provisions provided in Article 5, Design Standards.
 - a) Finding. The project is located in the Buckwalter PUD and is part of the Buckwalter Business Park Master Plan. There are specific design standards established by the PUD via the Beaufort County 1990/3 Zoning and Development Standards Ordinance, which are attached to the PUD. As a result, the design criteria of Article 5 of the current Unified Development Ordinance does not apply to this proposal.
- 2. <u>Section 3.17.3.B.</u> The proposed development shall be in conformance with any approved Development Agreement, PUD Concept Plan, PUD Master Plan, Subdivision Plan, or any other agreements or plans that are applicable.

The property is located in the Buckwalter PUD and is identified on the Concept Plan as Commercial land use in an area noted as Buckwalter Commons. Further, the planning area is identified in the Buckwalter Business Park Master Plan. As a result, the property is subject to the Beaufort County 1990/3 Zoning and Development Standards Ordinance. The Zoning and Development Standards Ordinance and Design Guidelines contain architectural, landscaping, and lighting design standards for properties located in the Highway Corridor Overlay District (HCOD).

A. BUCKWALTER PUD/PUD CONCEPT PLAN

The Buckwalter PUD refers to the Beaufort County 1990/3 Zoning and Development Standards Ordinance (ZDSO) for development standards.

Landscaping

- 1) Finding Highway Buffer. Section 4.23.2.C.5. of the Beaufort County 1990/3 ZDSO states that installed shrubs used to meet the requirements shall be at least two and one half feet tall when planted. While they are existing plantings, confirm that the dwarf yaupon hollies meet the two and a half foot minimum.
- 2) Finding Landscaped Medians. Section 4.23.2.2.E.1.a. of the Beaufort County 1990/3 ZDSO states that wheel stops shall be placed within all parking spaces at the standard distance from every landscaped median to

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protect the plantings. Further, this section states that shrubs and/or trees shall be installed in the median to provide for semi-continuous plantings along the median and that those shrubs shall be at least one foot in height at installation and reasonably projected to grow to at least 2 feet in three years. As proposed, the site does not have any wheel stops shown and the medians are planted with $4" \times 8"$ Asiatic Jasmine at 2.5' spacing. To meet the requirements wheel stops must be added and shrubs meeting the dimensional requirements must be added.

3) Finding – Landscaped Peninsulas. Section 4.23.2.2.E.1.b. of the Beaufort County 1990/3 ZDSO states that a landscaped peninsula shall be installed parallel to the parking spaces every eight or fewer spaces and at the end of the parking aisle. It also states each landscaped peninsula shall contain one broad-leaved overstory tree with a minimum size of two and one half inches at dbh and a minimum height of ten feet. As shown, at the northern most row of parking east of the entrance of the Nissan Dealership the peninsula is placed after 9 spaces. To remedy this, the peninsula must be moved over one space so that there are 8 spaces on each side. Also, on both sites the overstory trees proposed in the peninsulas are Sabal Palms and Arnold Tulip Poplars. While the poplars are not noted in the list provided in the ZDSO, they are commonly recognized as an overstory tree. To provide a more year round evergreen buffer to soften the proposed parking, Staff recommends substituting some of the proposed deciduous trees with evergreen trees such as Live Oaks.

Architecture

- 4) Finding Architectural Design and Accessory Buildings. Section 4.23.3.A.1.b., 4.23.3.A.1.c. and 4.23.4.A. of the Beaufort County 1990/3 ZDSO states that multi-unit developments shall utilize a consistent or at least stylistically compatible palette of scale, forms, colors, materials, and textures and that accessory structures should be architecturally compatible with primary structures. Not enough information was provided regarding the site accessory structures (i.e. dumpster enclosure) to determine if they meet the requirements. Provide additional information on the typical dumpster enclosures.
- 5) Finding Inappropriate Exterior Materials and Architectural Elements. Section 4.23.3.A.3.a. of the Beaufort County 1990/3 ZDSO states that plywood, cinderblock, unfinished poured concrete, unfaced concrete block and plastic or metal not closely resembling painted wood clapboard are considered incompatible and inappropriate for primary or accessory structures.

As proposed, the design for the Nissan Dealership utilizes embossed aluminum sandwich panels at the side and rear of the building (ASP-1) and a corrugated steel siding (ARM-1) around the service entrances.

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These materials do not resemble painted wood clapboard as required and must be revised to a more appropriate material.

As proposed, the design for the Infiniti Dealership utilizes embossed aluminum sandwich panels at the side and rear of the building. This materials does not resemble painted wood clapboard as required and must be revised to a more appropriate material.

6) Finding – Signage. Section 4.23.3.B.1.g. of the Beaufort County 1990/3 ZDSO states that an integrated sign system shall be required for all new PUDS, commercial and residential subdivisions, office complexes and shopping centers.

Town Staff finds that because this development is proposed as a new commercial subdivision it is required to have an integrated sign system with review criteria for materials, colors, shapes, sizes, compatibility with architecture and establishment of unity of design for the development. In addition to the integrated sign package, a Town of Bluffton sign permit will be required for each individual parcel/tenant as the site develops.

Lighting

- 1) Finding Lighting. Section 4.23.3.C.2.a.2 of the Beaufort County 1990/3 ZDSO provides information about appropriate light sources. It states that light source should be incandescent, fluorescent, metal halide, mercury vapor or color corrected high-pressure sodium and does not mention LED lighting. As LED has become increasingly popular for its sustainable properties, the proposed fixtures are to have a K4000 temperature which is equivalent to a clear metal halide in color (see Attachment 6), and the LED fixture provides much sharper horizontal cut-off and far less light spill, it should be an acceptable light source.
- 2) Finding Lighting. Section 4.23.3.C.4. of the Beaufort County 1990/3 ZDSO provides illumination levels for types of lighting.

Town Staff finds that the average illumination levels for nearly all types of lighting exceed those levels noted in the ZDSO. The proposed lighting does not meet the requirements and must be modified not to exceed the averages listed.

B. PUD MASTER PLAN

The Buckwalter Business Park Master Plan document mentions the creation of design guidelines, but none have been provided.

1) Finding. Buckwalter Business Park Master Plan. The property is noted in the Buckwalter Business Park Master Plan, at the northern edge of the Town of Bluffton adjacent to US 278. The intent for development is to

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preserve and enhance the basic character of Bluffton and the quality of life that has made Bluffton both unique and appealing and to provide consistent, high quality development in keeping with the Bluffton community.

As noted above, Town Staff finds that with minor revisions to the architecture and some additional information on the dumpster enclosures, this development can meet the requirements of the DZSO.

As there are no the design guidelines established in the Bluffton Business Park Master Plan for the site, no additional architectural review was performed.

C. DEVELOPMENT PLAN

The Final Development Plan is being reviewed concurrently and was provided comment December 22, 2015.

- 1) Finding. Preliminary Development Plan. This project requires development plan approval from the Town of Bluffton. The Applicant has submitted the project for review and it was presented before the Development Review Committee on December 22, 2015. At that time, it was reviewed and comments provided which the Applicant. The Applicant is actively working with Town Staff to satisfy these conditions and move forward with the Final Development Plan application.
- D. DECLARATION OF COVENANTS, CONDITIONS, AND RESTRICTIONS
 The Declaration of Covenants, Conditions, and Restrictions for the Buckwalter
 Business Park Master Plan.
 - 1) Finding. Declaration of Covenants, Conditions, and Restrictions for Buckwalter Crossroads. The project is not subject to the restrictive covenants as none are recorded with the Buckwalter Business Park Master Plan.
- 3. <u>Section 3.17.3.C.</u> The application must comply with applicable requirements in the Application Manual.
 - a. Finding. The application has been reviewed by Town Staff and has been determined to be complete and that it meets all requirements of the Applications Manual.

TOWN STAFF RECOMMENDATION: Town Staff finds that with the conditions noted below, the requirements of Section 3.17.3 of the Unified Development Ordinance will be met and recommends that the Planning Commission approve the application with the following conditions:

1. Landscape.

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a. Per Section 4.23.2.C.5. of the ZDSO, confirm that the existing dwarf yaupon hollies on the Nissan site meet the two and a half foot height minimum.

- b. Per Section 4.23.2.2.E.1.a of the ZDSO, at both sites incorporate wheel shops within all parking spaces at the standard distance from every landscaped median to protect the plantings.
- c. Per Section 4.23.2.2.E.1.a of the ZDSO, shrubs of at least one foot in height at installation and reasonably projected to grow to at least 2 feet in three years must be added to the median plantings at both sites.
- d. Per Section 4.23.2.2.E.1.b. of the ZDSO, the peninsula at the northern most row of parking east of the entrance at the Nissan site must be moved over one space so that there are 8 spaces on each side.
- e. Per Section 4.23.2.2.E.1.b. of the ZDSO, the Planning Commission permit the use of Arnold Tulip Poplars at both sites as an appropriate substitute for the overstory trees noted in the ZDSO.
- f. Recommendation At both sites consider substituting some of the proposed deciduous trees with evergreen trees such as Live Oaks to provide a more year round evergreen buffer to soften the proposed parking.

2. Architecture.

- a. Per Section 4.24.3.A.4. and 4.24.3.C.2.a.ii of the ZDSO, the design of the accessory structures must coordinate with the general style of architecture in the primary structure. Provide additional drawings of the dumpster enclosures at both sites so that they may be reviewed for conformance.
- b. Per Section 4.23.3.A.3.a. of the Beaufort County ZDSO, the proposed embossed aluminum sandwich panels at the side and rear of the building (ASP-1) and a corrugated steel siding (ARM-1) around the service entrances at the Nissan site must be revised to a more appropriate material.
- c. Per Section 4.23.3.A.3.a. of the Beaufort County ZDSO, the proposed embossed aluminum sandwich panels at the side and rear of the building at the Infiniti site must be revised to a more appropriate material.
- d. Per Section 4.24.3.B.1.g. an integrated sign system with review criteria for materials, colors, shapes, sizes, compatibility with architecture and establishment of unity of design for the development must be submitted for review and approval.

3. Lighting

- a. Per Section 4.23.3.C.2.a.2 of the Beaufort County ZDSO, the Planning Commission find the use of LED lighting to be an appropriate substitute for the permitted light source.
- b. Per Section 4.23.3.C.4. of the Beaufort County ZDSO, the average illumination levels for the proposed lighting must be modified not to exceed the averages permitted.

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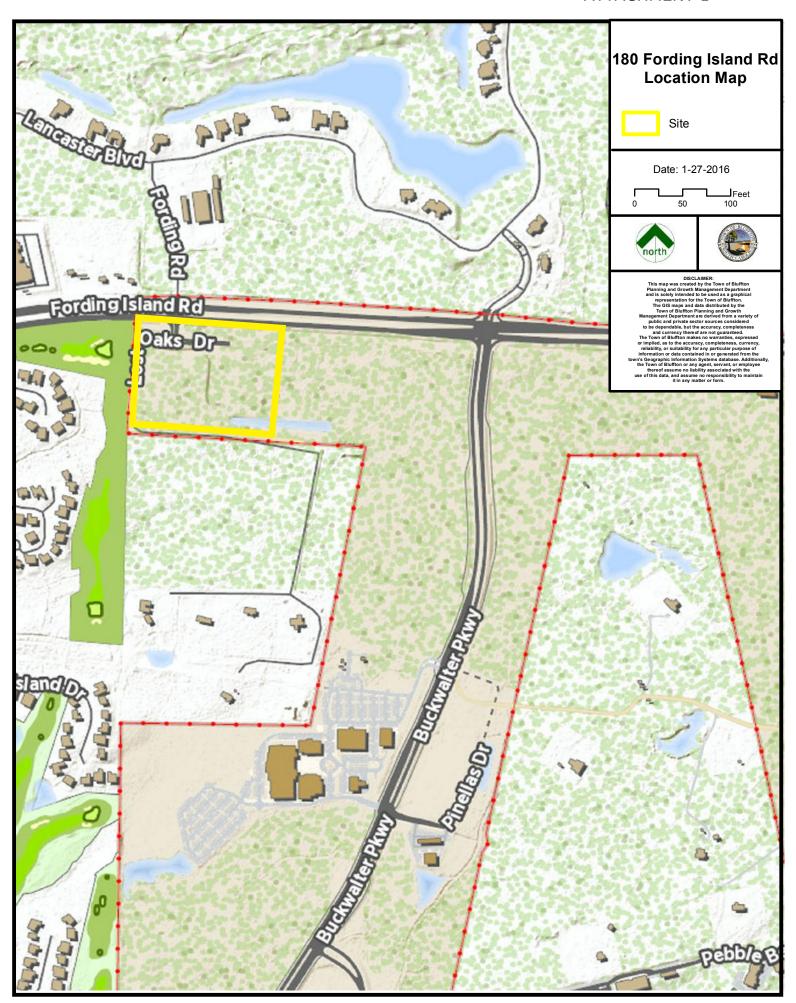
4. Additional Requirements.

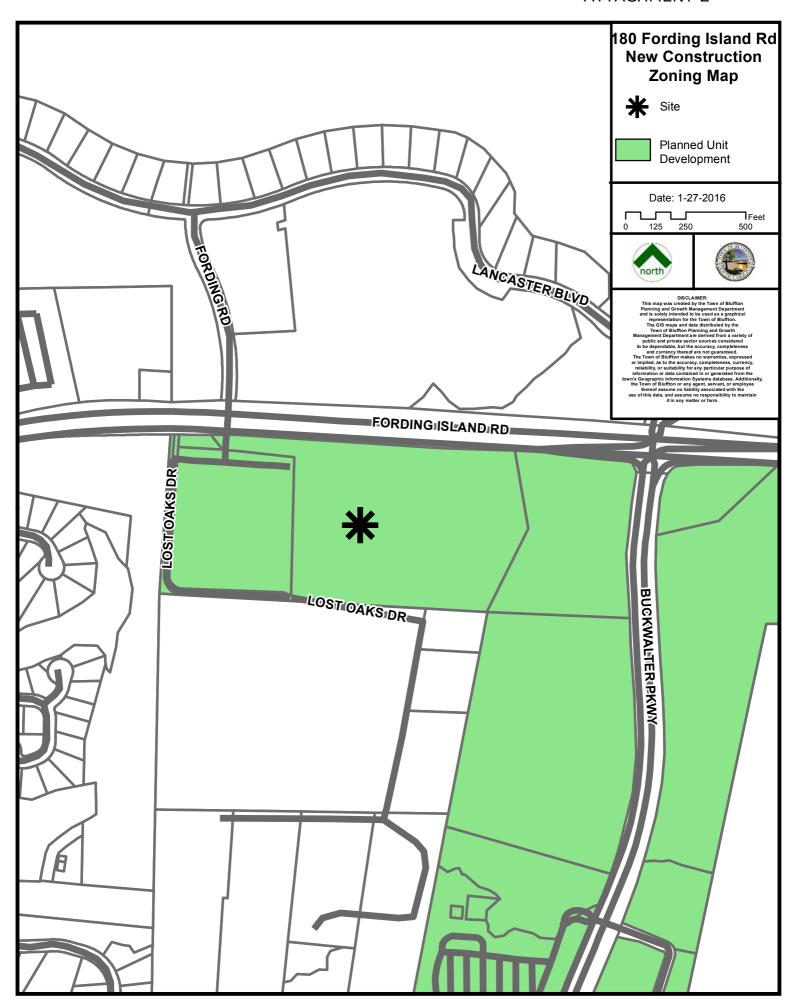
a. All comments provided by the DRC for the Preliminary and Final Development Plans must be addressed to be compliant with this COAHCOD approval.

b. Signage Permits must be submitted to the Town of Bluffton for review and approval for the signage proposed at each site in the proposed development.

ATTACHMENTS:

- 1. Location Map
- 2. Zoning Map
- 3. Narrative
- 4. Site Plan and Architectural Plans
- 5. Landscape Plan
- 6. Lighting Plan and Specifications





INFINITI OF HILTON HEAD BUCKWALTER BUSINESS PARK CERTIFICATE OF APPROPRIATENESS TOWN OF BLUFFTON, SOUTH CAROLINA

Project Narrative J – 25687.0000 December 22, 2015

JJL, Inc. proposes to construct a new auto dealership on the central parcel within the Buckwalter Business Park. The facility will contain an approximately 18,000 s.f. dealership including sales floor, offices and service bays.

The Nissan site sits on approximately 3.6 acres of the 20.7 acre auto dealership campus which includes the properties having tax map numbers of R610 022 000 0574 0000, R610 022 000 0575 0000, R610 022 000 0576 0000, R610 022 000 1069 0000, & R610 022 000 1070 0000. The property is presently owned by four owners (Buckwalter Business Park Property Owners Association, MFLP Bluffton, LLC, WTS Bluffton, LLC and Buckwalter Property Owners Association, Inc.) and is presently zoned Buckwalter PUD under the Town of Bluffton zoning jurisdiction. A letter has been provided by Town of Bluffton staff stating that the auto use is an allowed use in the Buckwalter PUD.

A master plan amendment and preliminary development plan has been submitted related to the Buckwalter Business Park. As part of those plans, the existing 12' road within the 50' perimeter PUD buffer to the west and south is proposed to be expanded to 20' paved. This increase in width doesn't particularly apply to this parcel, therefore, with exception of a minor impact where the new 20' road turns the north, the existing buffer and pond are proposed to remain as is for this project.

The site is bound on the north by U.S. Highway 278, the south by residential lots, on the west by a proposed auto dealership, and on the east by a future proposed auto dealership and preserved wetland. Existing conditions on this site consist of a majority of pine tree cover with some hardwoods within the 3.6 acre site (see Tree Canopy with Tree Survey overlay exhibit). The existing elevations on the subject site range from elevation 23 to 34 (NAVD 88) (see topo and existing conditions exhibit).

Total open space for the Buckwalter PUD is calculated for the boundary of the PUD and not on a site specific basis for each phase of the PUD, individual development or project. However, at the Development Plan stage, each project shall demonstrate a minimum of 10% open space. With the development of this new Infiniti Facility, approximately 1.5 acres of the 3.6 acre Nissan site will be open space (41%).

The Buckwalter PUD requires a 50' buffer for the frontage of the property on Highway 278. The buffer requires six broad leafed over story trees, seven understory trees and 30 shrubs for every 100 linear feet of buffer. The existing vegetation is predominantly pine trees with under growth of sweet gum, oak, wax myrtles and other vegetation. The buffer is proposed to be hand cleared of none required vegetation and trees limbed up to the allowed 6' height. In addition to the preservation previously described, the buffer plan proposes to supplement the buffer along the highway frontage with new, predominantly evergreen plantings, but leave the majority of the buffer as it exists. The plan provides a buffer summary chart for how the buffer requirements are met. Also, the PUD requires a 5' wide planted median between all parking bays, landscaped peninsulas every 8 or fewer spaces and foundation planting buffers, all of which have been accommodated (see attached HCOD landscape plans).

VADEN NISSAN OF HILTON HEAD BUCKWALTER BUSINESS PARK CERTIFICATE OF APPROPRIATENESS TOWN OF BLUFFTON, SOUTH CAROLINA

Project Narrative J – 25687.0000 December 22, 2015

JJL, Inc. proposes to construct a new auto dealership on the western most parcel within the Buckwalter Business Park. The facility will contain an approximately 25,000 s.f. dealership including sales floor, offices and service bays.

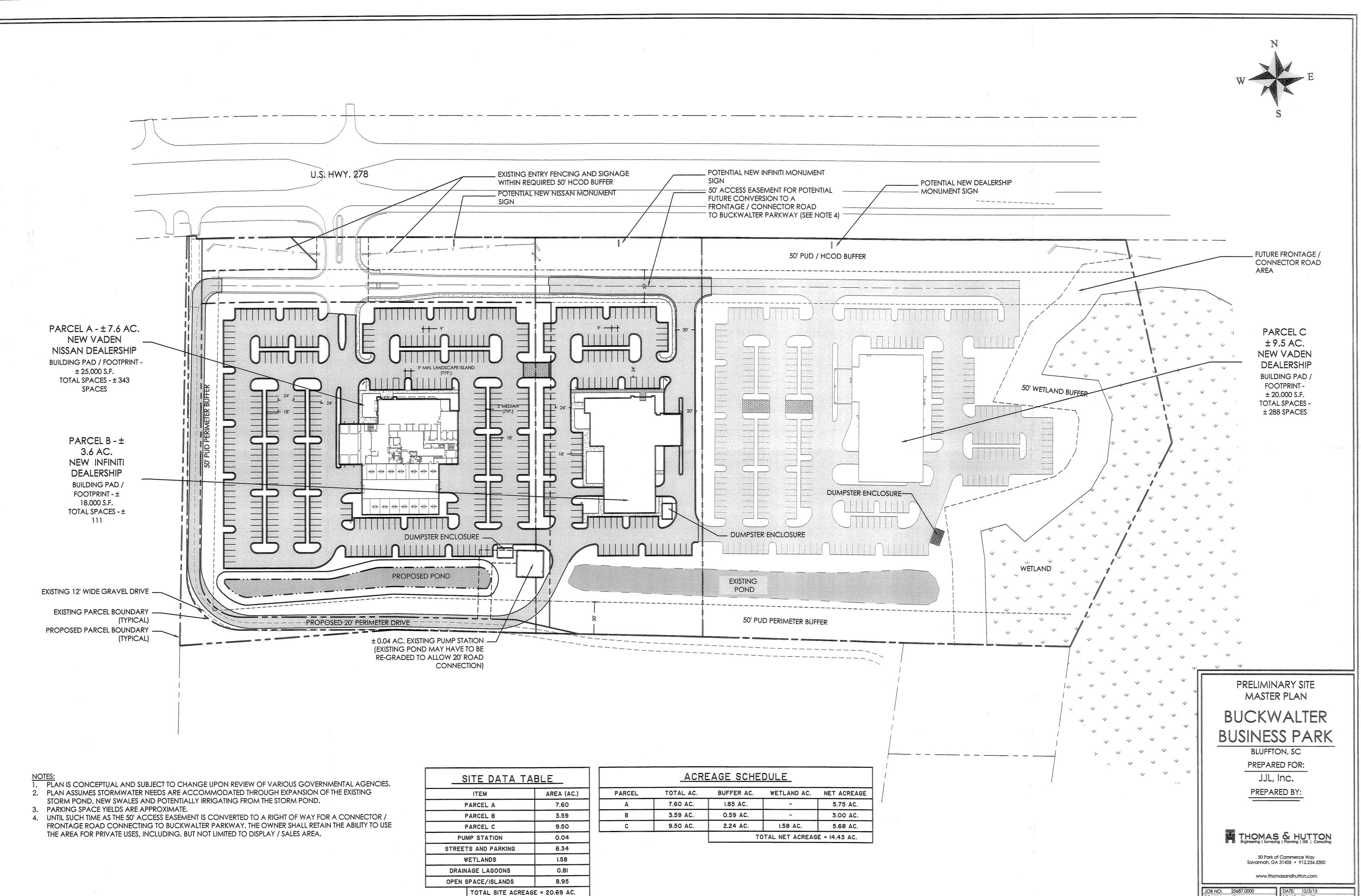
The Nissan site sits on approximately 7.6 acres of the 20.7 acre auto dealership campus which includes the properties having tax map numbers of R610 022 000 0574 0000, R610 022 000 0575 0000, R610 022 000 0576 0000, R610 022 000 1069 0000, & R610 022 000 1070 0000. The property is presently owned by four owners (Buckwalter Business Park Property Owners Association, MFLP Bluffton, LLC, WTS Bluffton, LLC and Buckwalter Property Owners Association, Inc.) and is presently zoned Buckwalter PUD under the Town of Bluffton zoning jurisdiction. A letter has been provided by Town of Bluffton staff stating that the auto use is an allowed use in the Buckwalter PUD.

A master plan amendment and preliminary development plan has been submitted related to the Buckwalter Business Park. As part of those plans, the existing 12' road within the 50' perimeter PUD buffer to the west and south is proposed to be expanded to 20' paved. In order to accommodate for the additional 8' of drive, the display parking has been offset from 8' to 14' on the west to allow for additional preservation area beyond that of the 50' PUD buffer.

The site is bound on the north by U.S. Highway 278, the south by residential lots, on the west by Island West golf course, and on the east by preserved wetland. Existing conditions on this site consist of a majority of pine tree cover with some hardwoods within the 7.6 acre site (see Tree Canopy with Tree Survey overlay exhibit). The existing elevations on the subject site range from elevation 23 to 28 (NAVD 88) (see topo and existing conditions exhibit).

Total open space for the Buckwalter PUD is calculated for the boundary of the PUD and not on a site specific basis for each phase of the PUD, individual development or project. However, at the Development Plan stage, each project shall demonstrate a minimum of 10% open space. With the development of this new Nissan Facility, approximately 3.0 acres of the 7.6 acre Nissan site will be open space (39%).

The Buckwalter PUD requires a 50' buffer for the frontage of the property on Highway 278. The buffer requires six broad leafed over story trees, seven understory trees and 30 shrubs for every 100 linear feet of buffer. The existing vegetation is predominantly pine trees with under growth of sweet gum, oak, wax myrtles and other vegetation. Also, as part of the original development, understory and shrub plantings were added to the buffer, as well as brick signage walls and white rail fencing, all of which is proposed to remain. In addition to the preservation previously described, the buffer plan proposes to supplement the buffer along the highway frontage with new, predominantly evergreen plantings, but leave the majority of the buffer as it exists. The plan provides a buffer summary chart for how the buffer requirements are met. Also, the PUD requires a 5' wide planted median between all parking bays, landscaped peninsulas every 8 or fewer spaces and foundation planting buffers, all of which have been accommodated (see attached HCOD landscape plans).



 JOB NO:
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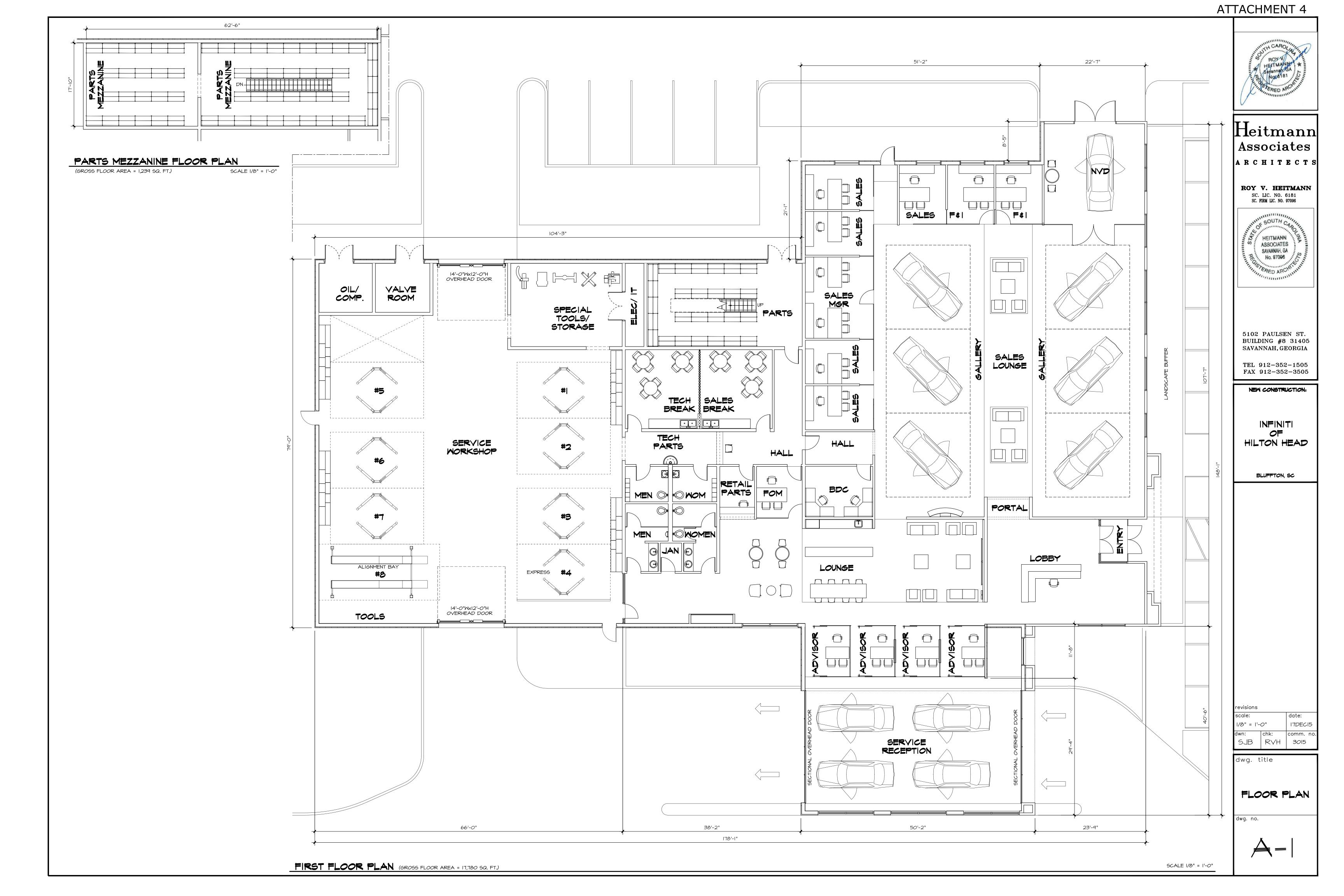
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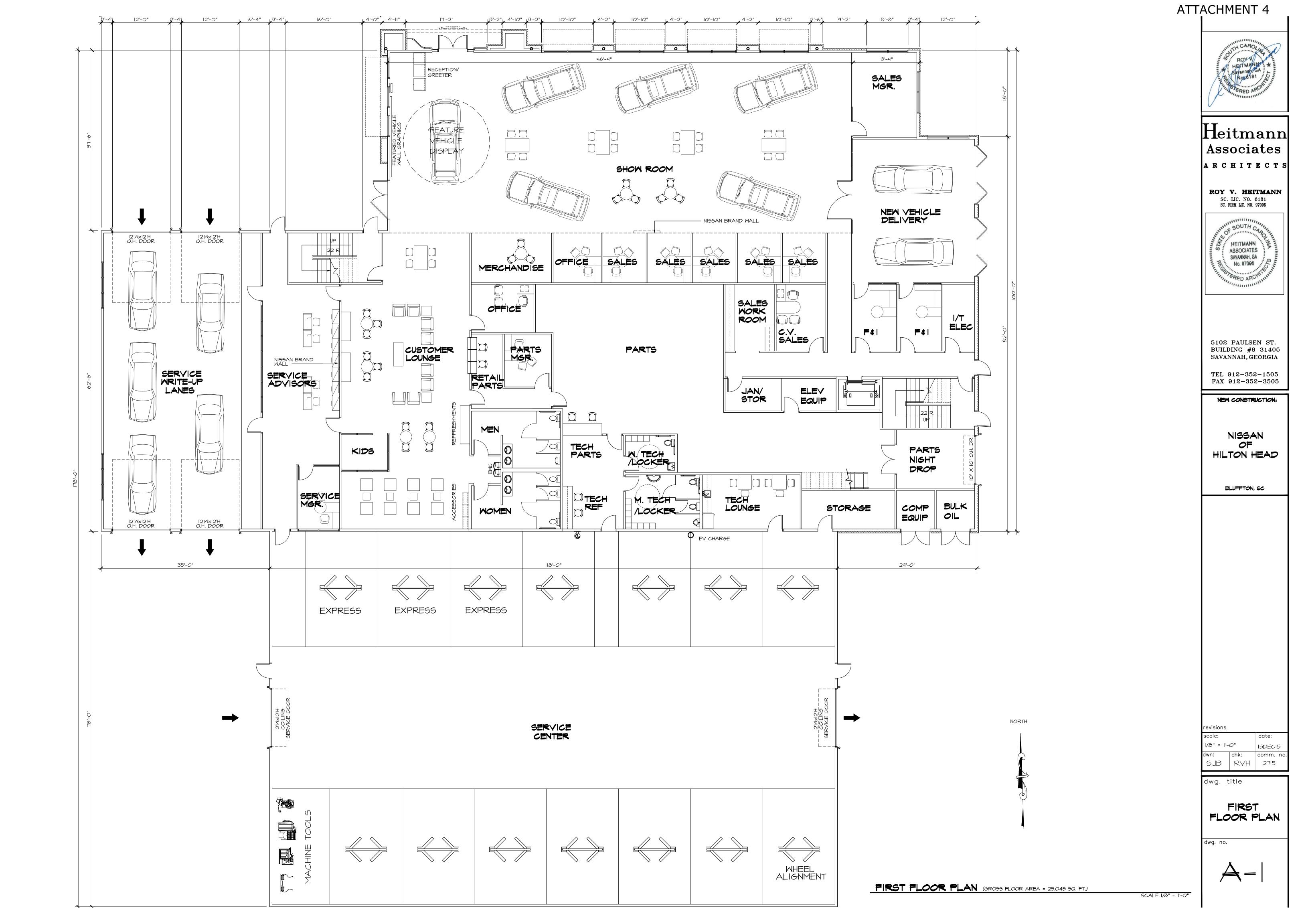
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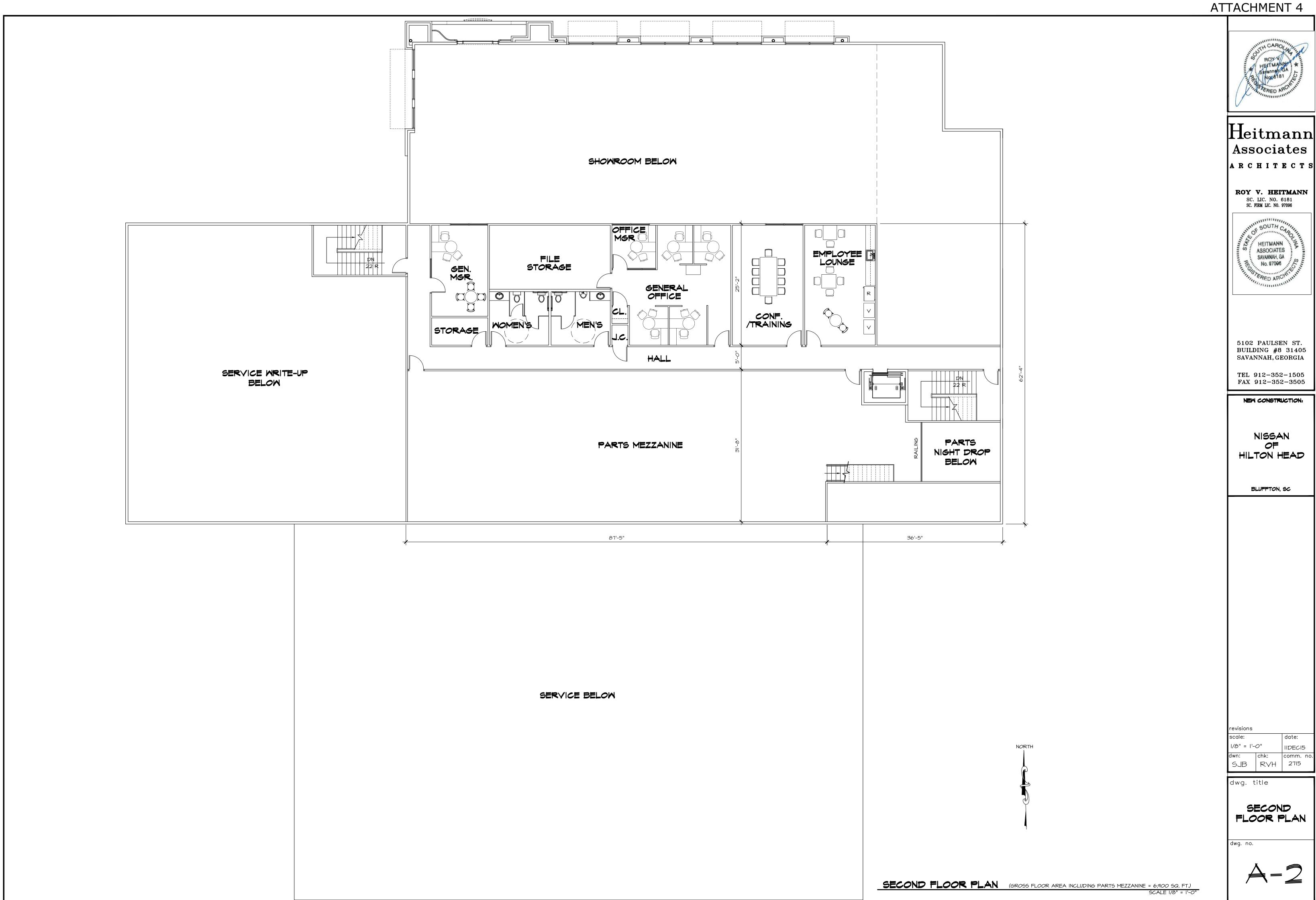
 DATE:
 12/3/15

 SCALE:
 1" = 60'

 SHEET:
 1 OF 1







Associates











HIGHWAY COORIDOR REVIEW LANDSCAPE PLANS OF NEW HILTON HEAD INFINITI DEALERSHIP

BLUFFTON, SC

PREPARED FOR:

JJL, INC.

12020 ABERCORN STREET

SAVANNAH, GA 31416

TM# R610 022 000 0574 0000, R610 022 000 0575 0000, R610 022 000 0576 0000, R610 022 000 1069 0000, & R610 022 000 1070 0000

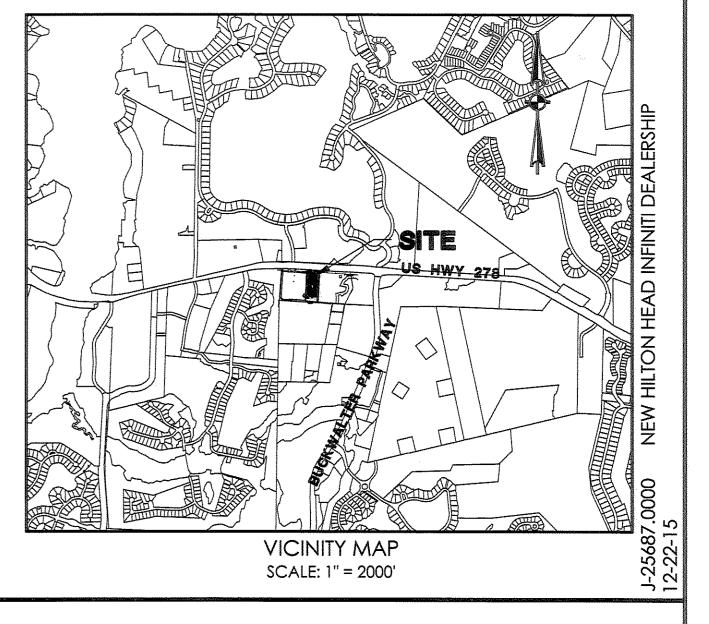
DECEMBER 22, 2015

J-25687.0000

PREPARED BY:



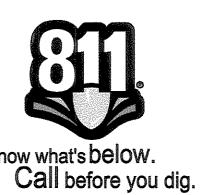


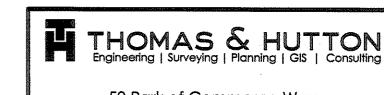


Sheet List Table					
Sheet Number	Sheet Title				
СО	COVERSHEET				
LA1.1	LANDSCAPE PLAN				
LA1.2	LANDSCAPE PLAN				
LA2.1	PLANTING DETAILS AND NOTES				
LA2.2	LANDSCAPING SPECIFICATION				
LA2.3	GRASSING SPECIFICATION				

	REVISION HISTORY		
			Anna anna anna anna
REV. NO.	REVISION	BY	DATE

SUBMITTAL HISTORY	
SUBMITTED TO BLUFFTON FOR HCOD REVIEW	12/22/1
SUBMITTED TO	DATE





50 Park of Commerce Way Savannah, GA 31405 p.912.234.5300 f.912.234.2950

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U.S. HWY. 278

HWY. 278 FRONTAGE

VIBS-B 3 LORP-B VIBS-B

VIBO-B

11

IV-B

5

JUNP
5
25 ANN
19

PTV
10
TRAF
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GARF
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PTV
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PTV
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LORP 17 MGLG 4 SOD

MUHC 8 PTV

SPAR 88

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GARF

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LORP 2

TREES 6" AND GREATER MAY ONLY BE

LIMBED UP TO 6' OR LESS (UNLESS THEY ARE DEAD BRANCHES, IN SIGHT LINES OR OTHERWISE ALLOWED BY TOWN OF.

BLUFFTON STANDARDS)' SHOULD ADDITIONAL EXISTING VEGETATION BE ABLE TO BE-PRESERVED, UPON TOWN APPROVAL, PROPOSED PLANTINGS MAY BE REDUCED.

MC-B

5

LT 2 JUNP

JUNP
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JUNP
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TRAF
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GARF
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SP-20
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JUNP
11

SP-20 1 ROSA 7

SP-20 1 SOD

> JUNP 11

PTV 15 SP-20 2 1 SR-B

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PTV
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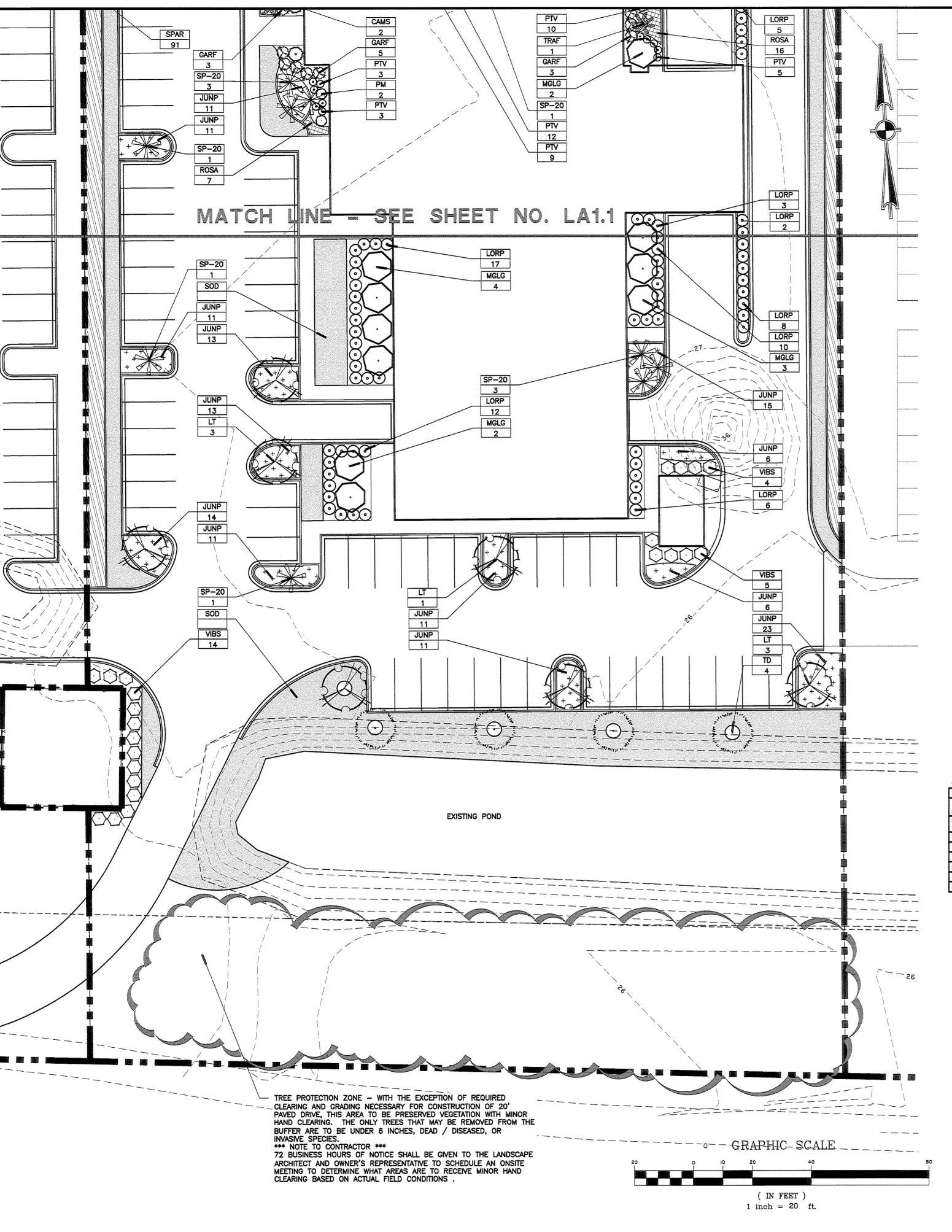
EXISTING BUCKWALTER BUSINESS -PARK SIGNAGE TO BE RENOVATED

SR-B

PROPOSED SIGNAGE FOR INFINITI DEALERSHIP

TREE PROTECTION ZONE — WITH THE EXCEPTION OF REQUIRED CLEARING AND GRADING NECESSARY FOR CONSTRUCTION OF NEW SIGNAGE, THIS AREA TO BE PRESERVED VEGETATION WITH MINOR HAND CLEARING. THE ONLY TREES THAT

MAY BE REMOVED FROM THE BUFFER ARE TO BE UNDER 6 INCHES, DEAD /
— DISEASED, OR INVASIVE SPECIES.
— *** NOTE TO CONTRACTOR ***
— 72 BUSINESS HOURS OF NOTICE SHALL BE GIVEN TO THE LANDSCAPE
— ARCHITECT AND OWNER'S REPRESENTATIVE TO SCHEDULE AN ONSITE MEETING
— TO DETERMINE WHAT AREAS ARE TO RECEIVE MINOR HAND CLEARING BASED
— ON ACTUAL FIELD CONDITIONS.



HIGHWAY 278 BUFFER SUMMARY	•	
TOTAL FRONTAGE ALF FRONTAGE	-	± 256 L.F.
REQUIRED PLANT MATERIAL FACTOR (LF. / 100)	-	2.56
REQUIRED BROADLEAF OVERSTORY TREES (2.56 X 6)	-	16
PROVIDED BROADLEAF OVERSTORY TREES EXISTING BROADLEAF OVERSTORY - 7 WATER OAKS , 1 LIVE OAK AND 1 SWEET GUMS EXISTING CONEBEARING OVERSTORY - 39 PINES (COUNT 3 FOR 1)	-	22 9 13
REQUIRED UNDERSTORY TREES (2.56 X 7 = 18 + 7 ADDITIONAL FROM UTILIZING CONEBEARING OVERSTORY)	-	25
PROVIDED UNDERSTORY TREES EXISTING UNDERSTORY - 1 AMERICAN HOLLY PROPOSED PLANTED UNDERSTORY - 15 WAX MYRTLES, 6 CRAPE MYRTLES AND 6 TREE FORM YAUPON HOLLIES	-	28 1 27
REQUIRED SHRUBS (2.56 X 30)	-	77
PROVIDED SHRUBS EXISTING SHRUBS - NONE PROPOSED PLANTED SHRUBS -26 LOROPETALUM, 16 SAW PALMETTO, 35 MRS. SCH. VIBIRNUM, 6 SANDANKWA VIBURNUM	-	83 0 83

PLANT SCHEDULE

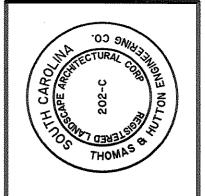
ING PL	ANTS				
ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
E-LO		Existing Live Oak	N/A N/A		Existing Live Oak to Remain in Buffer
E-SG		Existing Sweet Gum	N/A N/A		Existing Sweet Gum to Remain in Buffer
E-WO		Existing Water Oak	N/A N/A		Existing Water Oak to Remain in Buffer
E-10		Existing American Holly			Existing American Holly to Remain in Buffer
E-PN		Existing Pine			Existing Pine to Remain in Buffer
		E-SG E-WO E-IO	ABBRV SCIENTIFIC NAME E-LO E-SG E-WO Existing Sweet Gum Existing Water Oak Existing American Holly	ABBRV SCIENTIFIC NAME COMMON NAME PLANTING SIZE E-LO Existing Live Oak N/A N/A E-SG Existing Sweet Gum N/A N/A E-WO Existing Water Oak N/A N/A E-IO Existing American Holly N/A N/A	ABBRV SCIENTIFIC NAME COMMON NAME PLANTING SIZE SPACING E-LO Existing Live Oak N/A N/A E-SG Existing Sweet Gum N/A N/A E-WO Existing Water Oak N/A N/A E-IO Existing American Holly N/A N/A

BUFF	<u>er pla</u>	NITNGS				
QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
6	IV-B	llex vomitoria	Yaupon Holly	B & B OR CONT. ; I-I/2" Cal. Min., 8' Ht. Min.	AS SHOWN	Specimen, Full
6	LIN-B	Lagerstroemia indica 'Natchez'	'Natchez' Crape Myrtle	B & B OR CONT. ; I-I/2" Cal. Min., 8' Ht. Min.	AS SHOWN	Specimen, multi-trunk, 3 trunk min
26	LORP-	Loropetalum chinense 'Ruby'	Ruby Loropetalum	CONT. ; 30" Ht. Min.	AS SHOWN	Full
15	мс-в	Myrica cerifera		B & B OR CONT. ; 1-1/2" Cal. Min., 8' Ht. Min.		
16	SR-B	Serenca repens	Saw Palmetto	CONT. ; 30" Ht. Min.	AS SHOWN	Full
35	VIBO-B	Viburnum Obovatum 'Mrs. Schiller's Delight'	Viburnum 'Mrs. Schillers Delight'	CONT. ; 30" Ht. Min.	AS SHOWN	Full
6	VIBS-B	Viburnum suspensum	Sandankwa Vihuraum	CONT . 30" Ht Min	AC CHOWN	Full to ground

TREE	S					
QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
7	AB	Acer buergerianum 'ABMTF'	Aeryn Trident Maple	B & B OR CONT. ; 3" CAL., 12-14' HT. MIN.	AS SHOWN	Specimen, Single Trunk,
14	LT	Liriodendron tulipfera 'Arnold'	Arnold Tulip Poplar	B & B OR CONT. ; 3" Cal. Min., 14-16' Ht.	AS SHOWN	Specimen
11	MGLG	Magnolia grandiflora 'Little Gem'	'Little Gem' Southern Magnolia	B & B OR CONT. ; 2" Cal. Min., 8' Ht.	AS SHOWN	Specimen, Full to Ground
4	TD	Taxodium distichum	Baid Cypress	B B B OR CONT + 3" Cal Min 14-16" Ht	VC CHUMN	Specimen

PALN	S					
QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
13	SP-20	Sabal palmetto	Sabal Palm	Bare Root 22' - 24' Trunk HT.	AS SHOWN	Palms shall be refoliated. Stagger HTs>20' Ht. counts toward Broad-Leaved Overstory Tree
14	TRAF	Trachycarpus fortunei	Windmill palm	15 GAL.; 36" Ht. Min.	AS SHOWN	Full
SHRU	BS					
QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
4	CAMS	Camellia sasanqua 'Leslie Ann'	'Leslie Ann' Camellia	CONT. ; 5' HT.,	AS SHOWN	Full
15	GARF	Gardenia jasminoides 'Frostproot'	Frostproof Gardenia	CONT. ; 20" x 20"	AS SHOWN	Full
72	LORP	Loropetalum chinense 'Ruby'	Ruby Loropetalum	CONT. ; 20" x 20"	AS SHOWN	Full
73	PTV	Pittosporum tobira 'Dwarf Variegated'	Variegated Dwarf Pittosporum	CONT. ; 15" HT. X 15" SPD.	AS SHOWN	Full to ground
4	РМ	Podocarpus macrophyllus 'Maki'	Southern Yew	CONT. ; 6' HT. X 2.5' SPD.		Full, matched plants. Allow to grow to / maintain at a 6' ht.
23	VIBS	Viburnum suspensum	Sandankwa Viburnum	CONT.; 20" X 20"	AS SHOWN	Full

ORNAN	MENTAL	GRASSES AND GROUNDCOVERS				
QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
171	ANN	•	Seasonal Color	I GAL. ; I2" O.A. HT.	12"	Species to be selected by owner. Plant at appropriate spacing to create immediate solid mass. Plant in 6 to 9" garden soil mound.
18,000 S.F.	SOD	Eremochloa ophiuroides	Centipede Grass	Dense roots		Dense roots
286	JUNP	Juniperus squamata expansa 'Parsonii'	Parson's Juniper	I GAL ;	3.5'	Full
28	LISB	Liriope muscari 'Super Blue'	"Super Blue" Liriope	I GAL. ; 9" O.A. HT. MIN.	2'	Full
57	MUHC	Muhlenbergia capillaris	Pink Muhly Grass	I GAL. ; 10" X 18"	3'	Full
118	ROSA	Rosa'Meijocos' PP#I8874 CPBRAF	Pink Drift Rose	I GAL. ; 8" O.A. HT.	2'	Full
202	SPAR	Spartina bakeri	Cord Grass	I GAL. ; I2" X I6"	41	Full
47	TRAA	Trachelospermum asiaticum	Asiatic Jasmine	I GAL. ; 4" X 8"	2.5'	Full, Min.of IO, I2" long runners. Bring runners above mulch.





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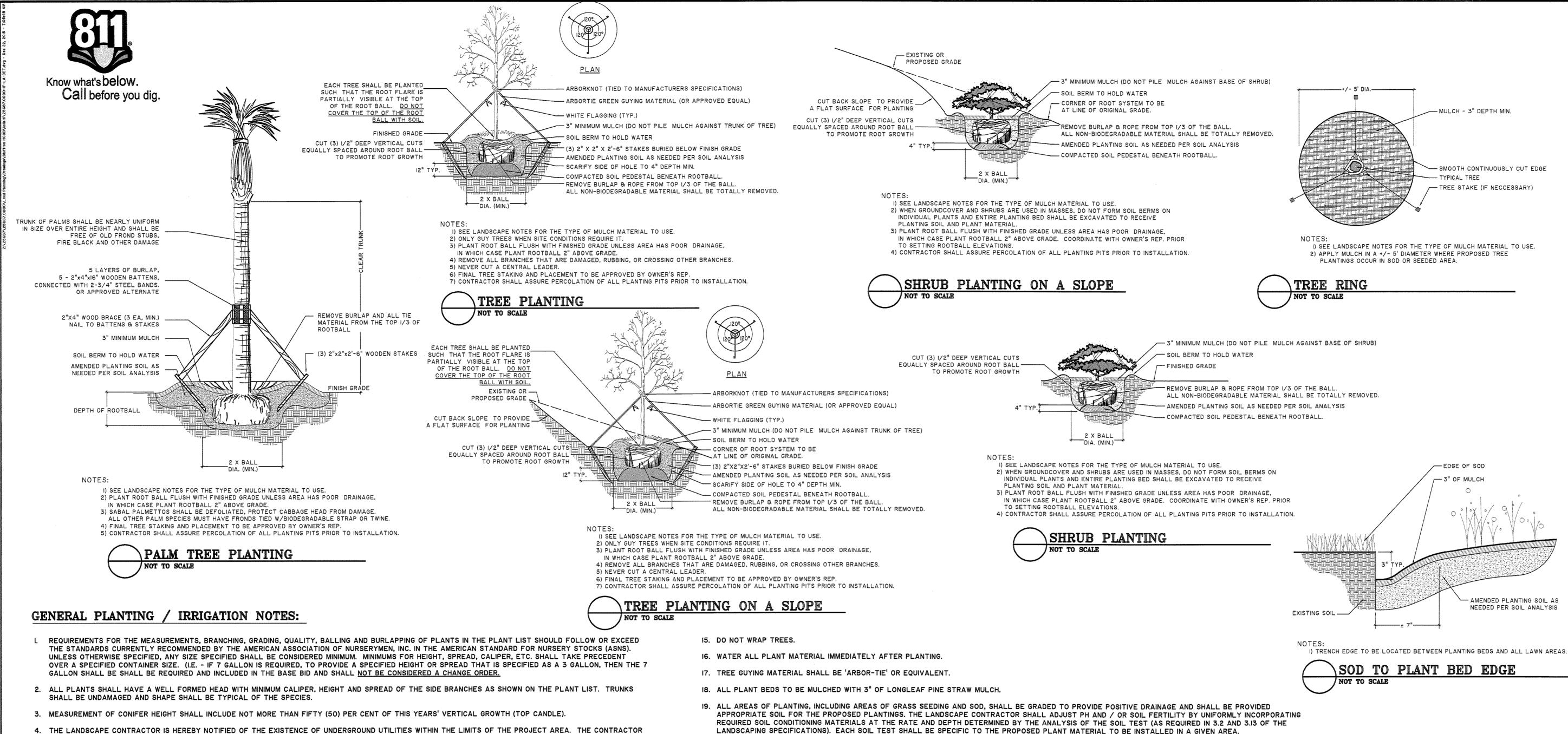
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JOB NO: J-25687.00
DATE: i2-22-i5
DRAWN: RPT
DESIGNED: RPT
REVIEWED: SKM
APPROVED: RPT

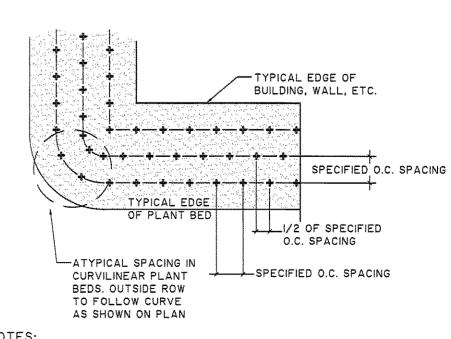
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- 4. THE LANDSCAPE CONTRACTOR IS HEREBY NOTIFIED OF THE EXISTENCE OF UNDERGROUND UTILITIES WITHIN THE LIMITS OF THE PROJECT AREA. THE CONTRACTOR SHOULD VERIFY THE EXACT LOCATION OF ALL UTILITY LINES PRIOR TO COMMENCEMENT OF DIGGING OPERATIONS. CONTRACTOR RESPONSIBLE FOR LOCATING, PROTECTING, AND REPAIRING ALL DAMAGE TO BUILDINGS, UTILITIES, PAVEMENT, AND CURB & GUTTER, ANY REPAIRS SHALL BE DONE PROMPTLY AT CONTRACTOR'S
- 5. THE CONTRACTOR WILL BE RESPONSIBLE FOR STAKING AND LAYOUT OF PLANTINGS ON THIS PROJECT. THE LANDSCAPE ARCHITECT OR OWNER SHALL BE ADVISED WHEN STAKES ARE READY FOR INSPECTION ON VARIOUS PLANTING AREAS. ALL LAYOUT WORK SHALL BE INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT AND OWNER PRIOR TO OPENING ANY PLANTING PITS.
- 6. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO VERIFY THAT EACH EXCAVATED TREE OR SHRUB PIT WILL PERCOLATE (DRAIN) PRIOR TO ADDING TOPSOIL AND INSTALLING TREES OR SHRUBS. THE CONTRACTOR SHALL FILL THE BOTTOM OF HOLES WITH SIX (6) INCHES OF WATER. THIS WATER SHOULD PERCOLATE WITHIN A TWENTY-FOUR (24) HOUR PERIOD. IF WATER DOESN'T PERC, CONTRACTOR SHALL NOTIFY THE OWNER'S REP PRIOR TO INSTALLING PLANTS.
- SHOULD THE LANDSCAPE CONTRACTOR ENCOUNTER UNSATISFACTORY SURFACE OR SUBSURFACE DRAINAGE CONDITIONS, SOIL DEPTH, LATENT SOILS, HARD PANS, STEAM OR OTHER UTILITY LINES OR OTHER CONDITIONS THAT WILL JEOPARDIZE THE HEALTH AND VIGOR OF THE PLANTS, HE MUST ADVISE THE LANDSCAPE ARCHITECT IN WRITING OF THE CONDITIONS PRIOR TO INSTALLING THE PLANTS. OTHERWISE, THE LANDSCAPE CONTRACTOR WARRANTS THAT THE PLANTING AREAS ARE SUITABLE FOR PROPER GROWTH AND DEVELOPMENT OF THE PLANTS TO BE INSTALLED.
- 8. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING UP THE SITE AT THE COMPLETION OF THE PROJECT AND SHALL MAINTAIN THE SITE IN A REASONABLY NEAT AND CLEAN STATE THROUGHOUT THE INSTALLATION PROCESS. STREETS AND PAVED AREAS SHALL BE CLEANED REGULARLY TO REMOVE CONSTRUCTION MATERIALS AND OTHER DEBRIS RESULTING FROM WORK OF THE PROJECT.
- 9. REPLACEMENTS OF DEAD OR UNSATISFACTORY MATERIAL SHALL BE MADE AS SPECIFIED IN THE PLANT LIST. THE OWNER OR LANDSCAPE ARCHITECT SHALL INSPECT REPLACED PLANTS WHEN ALL REPLACEMENTS HAVE BEEN MADE. REPLACEMENTS ARE TO BE ALIVE AND IN A HEALTHY CONDITION WHEN THE REPLACEMENTS ARE COMPLETE. REPLACEMENTS ARE NOT SUBJECT TO AN ADDITIONAL GUARANTEE, BUT THE LANDSCAPE CONTRACTOR SHALL CONSULT WITH THE LANDSCAPE ARCHITECT ON REASON FOR PLANT DECLINE/DEATH AND HOW TO AVOID FUTURE INSTANCES.
- IO. SHOULD THE CONTRACTOR NOT MAKE REPLACEMENTS IN A SATISFACTORY AND TIMELY FASHION IN ACCORD WITH THE PLANTING NOTES, THE OWNER, AFTER PROPER NOTIFICATION TO THE CONTRACTOR MAY UTILIZE THE FUNDS OF THE RETAINAGE TO HAVE THE REPLACEMENTS MADE IN ACCORDANCE WITH THE SPECIFICATIONS BY ANOTHER CONTRACTOR.
- II. NO EXCAVATION OR PLANTING PIT SHALL BE LEFT UNATTENDED OVERNIGHT.
- 12. PLANT MATERIAL QUANTITIES PROVIDED IN THE PLANT LIST ARE FOR REFERENCE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR THE ACTUAL PLANT MATERIAL COUNTS. DISCREPANCIES BETWEEN QUANTITIES SHOWN ON THE PLANTING PLAN AND THOSE IN THE PLANT LIST SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION. IF CLARIFICATION OF DISCREPANCIES FROM THE LANDSCAPE ARCHITECT IS NOT POSSIBLE, THEN QUANTITIES SHOWN ON THE PLANTING PLAN SHALL TAKE PRECEDENCE.
- 13. REMOVE BURLAP/STRAPPING AND WIRE BASKET FROM TOP 均 OF ROOT BALL ON TREES.
- 14. REMOVE PAPER, PLASTIC OR METAL AROUND ROOT BALLS OF SHRUBS.

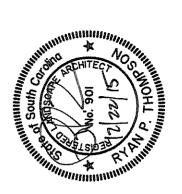
- LANDSCAPING SPECIFICATIONS). EACH SOIL TEST SHALL BE SPECIFIC TO THE PROPOSED PLANT MATERIAL TO BE INSTALLED IN A GIVEN AREA.
- 20. ALL EXISTING VEGETATION WITHIN AREAS TO BE PLANTED / SODDED / SEEDED SHALL BE REMOVED PRIOR TO PLANTING / SODDING / SEEDING. ALL AREAS INDICATED TO BE GRASS SEED SHALL BE HYDROSEEDED PER EROSION SEDIMENT CONTROL SPECIFICATIONS FOR PERMANENT STABILIZATION.
- 21. CONTRACTOR TO SUPPLY AUTOMATIC IRRIGATION SYSTEMS, COMPLETE AND INSTALLED. SYSTEM TO INCLUDE ALL VALVES, PIPES, HEADS, FITTINGS, RAIN SENSOR, AND CLOCK AND TO PROVIDE 100% COVERAGE OF ALL NEW SODDED AND IMPROVED EXISTING GRASS AREAS, TREES, SHRUBS AND PLANTING BEDS. COORDINATE IRRIGATION WITH OWNER'S REPRESENTATIVE. (CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF PROPOSED IRRIGATION SYSTEM FOR OWNER ACCEPTANCE)
- 22. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR AUTOMATIC IRRIGATION SYSTEMS. CONTRACTOR SHALL PROVIDE ELECTRIC METER AND SERVICE IN ACCORDANCE WITH STATE AND LOCAL CODES FOR IRRIGATION SYSTEM. LOCATION OF METERS AND CONTROL PANELS FOR IRRIGATION SHALL BE APPROVED BY OWNER'S REP. PRIOR TO INSTALLATION.
- 23. ALL TREES SHALL BE INSTALLED PER THE REQUIREMENTS OF THE BLUFFTON, SC APPLICABLE ORDINANCES.
- 24. ALL PLANT BEDS TO RECEIVE WEED INHIBITOR OF PREEN OR ACCEPTED ALTERNATE.
- 25. FOR SUMMERTIME PLANTINGS, CONTRACTOR TO USE EITHER CONTAINERIZED OR PRE-DUG B & B PLANT MATERIAL
- 26. AS AN ADD ALTERNATE IN THE BID, THE CONTRACTOR SHALL PROVIDE "SOIL MOIST TRANSPLANT" (OR ACCEPTED EQUIVALENT) AT THE APPLICATION RATES SHOWN BELOW FOR ALL NEWLY INSTALLED PLANTINGS.

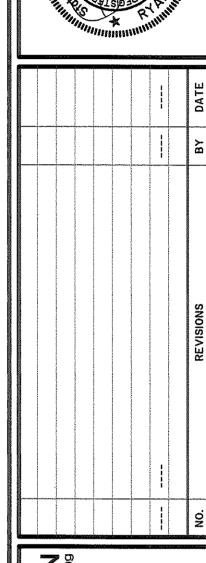
Container Size/Amount	Caliper Size/Amou
1 Gallon/.75 oz.	1"/3.0 oz.
2 Gallon/1.5 oz.	2"/6.0 oz.
3 Gallon/1.5 oz.	3"/9.0 oz.
5 Gallon/2.0 oz.	4" /12.0 oz.
7 Gallon/3.0 oz.	5" /15.0 oz
10 Gallon/3.0 oz.	6" /18.0 oz
15 Gallon/5.0 oz.	7"/21.0 oz
20 Gallon/7.0 oz.	8"/24.0 oz
Plant Height/Amount	Box Size/Amount
2'/1.5 oz.	16"/5.0 oz.
3'/2.0 oz.	20°/6.0 oz.
4'/3.0 oz.	24"/9.0 oz.
5'/4.0 oz.	30°/12.0 oz.
6'/5.0 oz.	36"/18.0 oz
7 ¹ /6.0 oz.	42"/27.0 oz
•	60°/30.0 oz.



I) EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER PLANTING TO A DEPTH OF 12".

PLANT SPACING DETAIL





ERSI DEAL 200 ဖြ AD S S NO

RAWN: DESIGNED: RPT EVIEWED: SKM APPROVED: RPT CALE: N.T.S.

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LANDSCAPING SPECIFICATION

LANDSCAPING

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work covered in this section consists of soil preparation, fine grading, lawns, trees, shrubs and ground cover plantings, their protection and maintenance of planted areas until acceptance.

1.2 RELATED WORK

A. See Civil and Landscape plans and specifications.

1.3 QUALITY ASSURANCE

- A. Qualifications of Workmen: Contractor shall provide at least one person present at all times during execution of work that is thoroughly familiar with the type of materials being installed and proper equipment and methods for their installation and who shall direct all work performed under this section.
- B. Standards: All seed, sod, trees, shrubs, and ground covers shall meet or exceed the specifications of Federal, State, County and / or Municipality laws requiring inspection for disease and insect control.
- 1. Plants and planting methods shall conform to the latest edition of American Standard for Nursery Stock, American Nursery & Landscape Association, 1000 Vermont Avenue, NW, Suite 300, Washington, DC 20005
- 2. Plants shall be true and representative of their genus, species, cultivar, or variety. Nursery stock shipped in accordance with the required specifications shall be deemed to be acceptable within the terms of this section if it is typical in size and habit for the species in the region of the country in which it is grown unless the specifications include additional details.
- 3. One of each bundle or lot shall be tagged with name and size of the plant in accordance with American Nursery & Landscape Association standards. In all cases, botanical names shall take precedence over common names. Landscape Architect should be consulted in the event questions arise about nomenclature of plants to be used and their availability.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging and location of packaging. Damaged packages are not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.
- C. Deliver sod on pallets.
- D. Handling of plants shall be by lifting the root mass or container and not by lifting plant by trunk or branches. Handling of plants in an improper fashion shall be cause for rejection of plant materials. Care must be taken during all phases of the location and planting procedures not to damage root system, trunk or branches. All plant materials shall be planted as soon after arrival at the site as possible. Contractor is responsible for keeping plants safe from injury by the construction activity and watered to prevent drying out before planting. Balled and burlapped plants shall be "Healed-in" and protected with burlap or other accepted material if they cannot be planted upon delivery. Plants with broken major branches, badly bruised or damaged bark are not acceptable and will be rejected.

1.5 PLANTING DATES

- A. The planting season for trees, shrubs and groundcovers is between October 1st and June 1st of the following year. Do not plant if temperature is below freezing or above 90 degrees. Planting at any other time other than the planting season is the Contractor's option and full responsibility and without additional compensation. Planting may, at the option of the Contractor, be postponed into the following planting season but without additional compensation provided the Owner and local governing jurisdiction have approved.
- C. Planting dates for sod, sprigging or seeding shall be per the grassing specification.

1.6 MEASUREMENT AND PAYMENT

- A. Measurement The items listed in the proposal shall be considered as sufficient to complete the work in accordance with the plans and specifications. Any portion of the work not listed in bid form, but required to complete the work, shall be deemed to be a part of the item with which it is associated and shall be included in the cost of the unit shown on the bid form.
- B. Payment Payment for the unit shown on the bid form shall be considered to cover the cost of all labor, material, equipment, and performing all operations necessary to complete the work in place. No payment will be made for any material wasted, used for the convenience of the Contractor, unused or rejected.
- 1. Trees, Shrubs, and Groundcovers Will be paid for at the contract unit price for planted/installed and accepted trees, shrubs, and groundcovers.
- 2. Payment for grassing will be made per the grassing specification.
- 3. Clearing Will be paid for at the lump sum price for clearing.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Contractor shall, at time of delivery, furnish Owner and / or Landscape Architect with invoices of all materials received; in order the quality and source of materials may be reviewed.

2.2 TOPSOIL

A. See Earthwork specification for topsoil / rootzone soil specification.

2.3 SEED

See grassing specification.

2.4 SPRIG

See grassing specification.

2.5 SOD

See grassing specification.

2.6 PLANT MATERIALS

- A. Provide all plant materials as indicated on the plans. In the event of any discrepancies between quantities of plants indicated on the plant schedule and those indicated on the plan, plan quantities shall govern.
- B. Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall be free of disease, insect pests, eggs or larvae, and shall have healthy, well developed root systems. Plants shall be from a nursery within 300 miles north or south of the project location and shall have been grown under climate conditions similar to those in the locality of project. Trees for planting in rows shall be uniform in size and shape.
- B. Plants shall possess a normal balance between height and width. Plants shall be measured when branches are in their normal position. Height and spread dimensions specified refer to the main body of plant and not from branch tip to tip. Plants larger in size than specified may be used with no change in contract price.

- C. Plants shall be dug with firm natural balls of earth, of diameter not less than recommended by American Standard for Nursery Stock and of sufficient depth to include fibrous and feeding roots. Plants will not be accepted if ball is cracked or broken before or during planting operations.
- D. Trees specified for <u>Street Tree Grade</u> shall conform to standards of the A.N.L.A.:
- Suitable for planting as street trees.
- 2. Free of branches to approximately 50% of height from ground.
- 3. Crown of tree shall be in good balance with the trunk.

2.7 FERTILIZER

A. Commercial fertilizer shall be slow release 5-10-10 or 6-12-12 (or as recommended by soil test), uniform in composition, free flowing, and suitable for application with appropriate equipment. Deliver to site unopened in manufacturer's standard containers showing weight, analysis and name of manufacturer. If stored on site, protect from the elements.

2.8 PEAT MOSS

A. Peat moss shall be finely shredded, 90% organic moss peat, brown in color and suitable for horticultural purposes. Peat shall be measured in air dry condition, containing not more than 35% moisture by weight. Ash content shall not exceed 10%.

2.9 MULCH FOR TREES, SHRUBS, AND GROUND COVERS

- A. Mulch for non bio-retention areas shall be as shown on plans.
- Mulch for bio-retention areas shall be shredded hardwood.

2.10 STAKING EQUIPMENT

A. Trees and palms shall be staked as shown in landscape plans.

2.11 WATER

A. The water source on the project for permanent irrigation shall be via pumping from the existing and proposed ponds with a back-up connection to the potable water system per requirements of BJWSA for such systems.

PART 3 - EXECUTION

3.1 FINE GRADING

- A. All areas within limits of construction shall be fine graded to the desired grades. All areas within limits of construction are to be fine graded, free of roots, debris and/or other objectionable material, before planting or grassing commence. Any additional fill material needed to fill low or uneven areas shall be provided by the Contractor. Positive drainage away from structures shall be provided in all plant beds so standing water does not occur. Planting beds shall be raised above adjacent lawn areas to provide good drainage conditions.
- B. Planting and grassed areas, if not loose, shall be loosened to a minimum depth of 3-inches before fertilizer, seed or sod is applied.

3.2 FERTILIZER AND SOIL AMENDMENTS

- A. Contractor shall provide Topsoil Analysis Tests that has been performed by a State Agricultural Experiment Station, Soil and Water Conservation District, State University, or other qualified private testing laboratory, as approved by Landscape Architect.
- B. Apply fertilizer and soil amendments after fine grading and mix thoroughly into upper 2 inches of soil.
- C. Fertilizer and other necessary soil amendments shall be applied at the rate recommended by Topsoil Analysis Test.

3.3 SODDING

See grassing specification.

3.4 SPRIGGING

See grassing specification.

3.5 SEEDING

See grassing specification.

3.6 SEED PROTECTION

See grassing specification.

3.7 LAYOUT OF TREES, SHRUBS, AND GROUND COVERS

A. All plants shall be placed in the proper location as shown on construction plans, allowing Landscape Architect to review all plant locations prior to actual planting. Landscape Architect may make minor adjustments which shall not be cause for changes to the

3.8 OBSTRUCTIONS BELOW GROUND

- A. Prior to excavating planting holes, Contractor shall determine the exact location of electrical, phone, or television cables or conduits, water, drainage or sewer lines, and any other subsurface structures and take precautions to protect them. Any damage to underground utilities shall be repaired immediately at the Contractor's expense.
- B. In the event rock, underground construction work, or other obstructions are encountered in any plant hole excavation under this contract, alternate locations may be selected. Where locations cannot be changed, the obstructions shall be removed to a depth of not less than three (3) feet below grade and not less than six (6) inches below bottom of ball or roots when plant is properly set at the required grade. The Contractor shall be responsible for the removal of such rock or other underground obstructions encountered.

3.9 PLANTING HOLES

A. For trees, shrubs and ground covers the planting hole shall be as shown on planting details in the plans. Do not leave planting holes open overnight. In the event that plant holes are dug and not planted in a timely manner, install four (4) foot high orange safety fencing around all excavated areas.

3.10 PLANTING TREES AND SHRUBS

- A. Shall be same as grown in the nursery and/or container soil level. Adjust bottom soil mix to insure proper planting level with the proposed surrounding grades. Check plants to insure proper vertical alignment.
- B. Fill holes to proper height to receive plant, and thoroughly tamp before setting the plant. Set plant in upright position in the center of the hole, and compact the backfill mixture around the ball or roots. Add soil amendments as required to improve fertility of existing soil and plant growing conditions.
- When balled or burlapped plants are set, compact topsoil around base of ball to fill all voids. All bindings shall be removed and the top half of burlap removed from around root ball. If burlap is made of natural fibers it can be laid back from the root mass or can be cut away. Remove all burlap if it is made of non-degradable material/fabric. All weeds growing on the root mass shall be removed prior to planting.

- 2. Containerized plants shall have the container removed prior to planting. Care shall be taken to protect root mass from injury and the root mass intact. If root mass shows evidence of being bound or matted, three vertical 1/2" deep cuts shall be made on alternate sides of the root mass and roots pulled away slightly. This is to untangle roots which have begun to "circle" the root mass and to encourage new root growth. All weeds growing in the root mass shall be removed prior to planting.
- 3. Roots of bare root plants shall be spread out and topsoil carefully worked in among them. Remove with a clean cut, any broken or fraved roots.

3.11 PLANTING GROUND COVERS

A. Planting beds shall be thoroughly worked to a depth of twelve (12) inches incorporating fertilizer and other soil improvements at the recommended rate suggest by the soils test. Rake prepared planting bed until level, smooth and free from all soil, lumps, rocks, sticks and other deleterious materials. Bed area should be neatly outlined. Space the plants evenly as indicated on the drawings. Plant only in soil that is moist and friable, and not wet or soggy. In the case of planting in the open on hot days, shorten the time between planting and watering.

3.12 WATERING

- A. Thoroughly water each plant when the hole is 1/3 full, again at 2/3 full and then complete backfilling. Once backfilling is complete, water again, then tamp the soil in place until the surface of the backfill is level with the surrounding area and the plant bears the same relation of finished grade as it bore to existing grade before being dug.
- B. Earth saucers shall be constructed around the perimeter of planting holes of all trees and all single planted shrubs. Earth saucers shall be minimum 3" high and compacted to retain water. Earth saucers shall not be installed in areas where the subsoil is very poorly drained or around mass shrub / groundcover plantings.
- C. All trees and shrubs to be hand watered on a regular basis as necessary during the warranty period.

3.13 SOIL MIX

A. Shall be per Earthwork and other applicable civil/landscape specifications and recommended amendments from soils test.

3.14 STAKING OF TALL PLANTS

A. Shall be done only if site / environment conditions make if required. If required, trees and palms shall be staked as indicated on the

3.15 MULCHING

A. All plants shall be mulched with an evenly thick layer of clean mulch immediately after planting. Mass plant beds shall be completely mulched to the limits of the bed as shown on the plans. Limit of mulching for individual trees and shrubs shall be slightly beyond the saucer berm. The areas mulched shall be tidy and clean in appearance.

3.16 PRUNING

Remove dead, broken or bruised branches after planting using clean, sharp tools.

3.17 WEEDING

A. All planted areas shall be kept free from weeds and undesirable grasses until final acceptance by the Owner. See General notes on plans for additional information.

3.18 INSECT AND DISEASE CONTROL

A. All plant materials shall be disease or insect free upon arrival to the site, however, should any plants show signs of insect or disease infestations, Contractor shall identify nature of infestation and submit to Landscape Architect a proposed method of control. Contractor shall treat all infested plants at its expense. Should the infestation be wide spread and uncontrollable, plants affected shall be removed from site, fresh plants brought in and all other plants treated to prevent infestation of remaining plants at

3.19 CLEAN UP

A. Contractor is responsible for removing all trash, debris, rubbish and all other materials associated with the construction from site on a daily basis. All tags, flags, and labels will be removed from plants and trees. The site shall be left broom clean and tidy. Clean up of the site is a prerequisite to final acceptance by the Owner.

PART 4 - MAINTENANCE AND WARRANTY

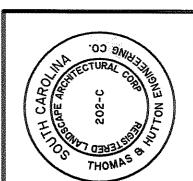
4.1 MAINTENANCE

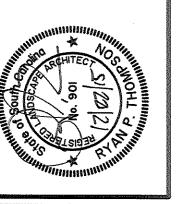
- A. Protect all plantings (grass, plants and trees) until accepted by Owner. All damage, regardless of cause, shall be immediately repaired and plants replaced if necessary. Erect temporary fences, barricades, signs and other protection as needed to prevent trampling. Contractor is not responsible for replacement of damaged or missing plants and plant materials due to vandalism or other acts beyond the control of the Contractor if proper barriers or other safeguards have been maintained.
- B. Maintenance shall include but is not limited to watering, weeding, cultivating, removal of dead material, mulch reapplication, resetting plants to proper grades or upright position, lawn mowing, fertilizing, and other necessary operations.
- C. The Contractor shall repair immediately any areas damaged as a result of construction operations or erosion.
- E. The Contractor shall maintain all proposed plantings until final acceptance is issued by the Owner.
- F. At the end of the maintenance period, all plants shall be in a healthy growing condition. During the maintenance period, should the appearance of any plant indicate weakness and probability of dying, immediately replace without additional cost to the Owner. Replacements required because of vandalism or other causes beyond the control of the Contractor are not part of this contract.

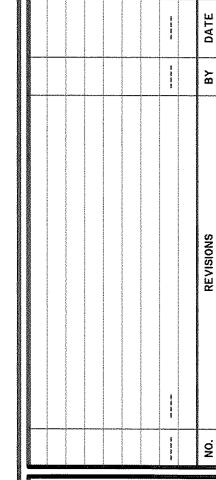
4.2 WARRANTY

- A. All shrubs, ground cover, and trees shall be guaranteed by the Contractor to be alive and healthy for a one year period after substantial completion is issued by the Owner. A final inspection with the Owner shall be conducted at the end of the warranty period to determine if any plants will be required to be replaced.
- B. Any lawn, plant, or tree which is dead or not showing satisfactory growth shall be replaced at Contractor's expense at the end of warranty period. All replacements shall be of original quality and of a size equal to adjacent plants or trees of the same kind.

END OF SECTION







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SCALE: N.T.S.

GRASSING SPECIFICATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Seeding, planting grass, and fertilizing graded areas around buildings, structures, soccer fields and sidewalk shoulders and other disturbed areas.
- B. Seed protection.
- C. Maintaining grassed areas until final acceptance.

1.2 RELATED WORK

A. Civil and Landscape plans and specifications.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging, and location of packaging. Damaged packages are not acceptable. Store in cool, dry locations away from contaminants.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

 Damaged bags are not acceptable. Store in cool, dry locations away from contaminants.
- C. Deliver sod on pallets.
- D. All material shall be acceptable to Engineer prior to use.

1.4 PLANTING DATES

A. This specification provides for establishment of a permanent grass cover between the dates of March 1 and September 30. If finished earth grades are not completed in time to permit planting and establishment of permanent grass during the favorable season between dates specified above unless otherwise accepted, Contractor will be required to plant a temporary cover to protect new graded areas from erosion and to keep windborne dust to a minimum. The temporary cover shall be planted between October 1 and February 28 unless otherwise permitted.

1.5 MEASUREMENT AND PAYMENT

- A. When the season or stage of project is such results of grassing work cannot be determined, conditional acceptance will be made on work completed. When conditional acceptance is made for items of work covered, Contractor shall be entitled to 50% of bid price for the actual work placed and shall receive remaining 50% of bid price when final acceptance is made. Conditional acceptance shall not apply to the remaining items of work, and full bid price payment shall be made when work is acceptably placed and completed in accordance with specifications.
- B. Payment for grassing will be made at contract unit price for the item "Grassing" and such payment shall constitute full compensation for furnishing and placing seed and fertilizer or sod where directed and protecting and maintaining seed and sod in all graded and disturbed areas.

PART 2 - PRODUCTS

Contractor shall submit source and species certification documents to Engineer and Owner's Representative for review prior to installation. Supply complete information on all analysis / test methodologies and results; laboratory certifications, manufacturer's specifications, and agency approvals to the Landscape Architect prior to placement of soil mixtures. In addition, provide the Landscape Architect with thoroughly mixed sample of soil mixes for approval prior to placement. Landscape Contractor shall make modifications and improvements to soil mixes deemed necessary by the soil analysis to meet requirements specified here in before, and to ensure proper growing medium for plant material.

2.1 SEED

- A. All seed shall conform to all State Laws and to all requirements and regulations of the State Department of Agriculture.
- B. The varieties of seed, as specified in Section 2.2, shall be individually packaged or bagged, and tagged to show name of seed, net weight, origin, germination, lot number, and other information required by the State Department of Agriculture.
- C. The Engineer reserves the right to test, reject, or accept all seed before seeding.

2.2 SEEDING SCHEDULE

A.	SEED		RATE	PLANTING DATES
		'Princess 77' Bermuda	75 lbs/ acre	March 1 - September 30
		Annual Rye (Temp only)	75 lbs/acre	October 1 - February 28

2.3 FERTILIZER

A. Commercial fertilizer of approved type, conforming to state fertilizer laws at the rate as recommended by soils test.

2.4 LIME

A. Agricultural grade, ground limestone at the rate as recommended by soils test.

2.5 SPRIG

A. Healthy living stems, stolons, or rhizomes and attached roots of locally adapted grass without adhering

soil, including two to three nodes and from 4 to 6 inches long. Obtain from heavy, dense certified sod. Provide sprigs which have been grown under climatic conditions similar to those in the locality of the project. Coordinate harvesting and planting operations to prevent exposure of sprigs to the sun for more than 30 minutes before covering and moistening. Sprigs showing signs of wilt, mold, containing weeds or other detrimental material or that are heat damaged will be rejected.

- B. The varieties of sprig, as specified in section 2.6, shall be individually packaged or bagged, and tagged to show name of sprig, net weight, origin and other information required by the State Department of Agriculture.
- C. Sprigs shall be pure to variety specified and shall be free of other grass species, weeds or foreign matter
- D. Sprigs shall be harvested by digging (not collected above soil level) shredding sod, by rototilling sod and raking, by vericutting or by a sprig harvester. Sprigs shall consist of mostly rhizomes and crowns with only a few green leaves.

2.6 SPRIGGING SCHEDULE (EDIT GRASS TYPES, RATES AND PLANTING DATES TO BE CONSISTENT WITH SPECIFIC PROJECT)

Α.	<u>SPRIG</u>	RAIE	PLANTING DATES	
	'Tifway 419' Bermuda (or approved equal)	1,000 bushels / ac. (Coverage in 3 months)	April 1 - August 31	
	Stabilize site with temporal (See section 2.2)	orary grass seed	September 1 - March 31	

B. In areas where existing grass is to be matched, Contractor shall sprig at the rate and dates recommended by sprig distributor.

2.7 SOD

- A. Sod shall be premium grade, densely rooted, good quality grass of the species and certified variety as shown on the plans, free from noxious weeds with no surface soil being visible. The sod shall be obtained from areas where the soil is reasonably fertile. Sod of specified species with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed. The sod shall be machine cut to a uniform soil thickness that shall contain practically all of the dense root system and not be less than 1-inch thick.
- B. Before cutting, sod shall be moved to a height of not less that 1-1/2" or more than 2". Sod shall be cut in uniform widths min. 12" and in lengths min. 24 inches.
- C. Sod shall be delivered to site in a fresh, moist condition with healthy green foliage. It shall be unloaded from delivery trucks on pallets or rolls and placed in final position within 24 hours of delivery. Sod shall be protected from wind and sun and shall not be allowed to dry out before planting.
- D. Sod shall be strong enough to support its own weight and retain its size and shape when suspended vertically from a firm grasp on the upper 10 percent of the section.

2.8 ACCESSORIES

- Straw Mulch: Oat or wheat straw, reasonably free from weeds, foreign matter detrimental to plant life, and in dry condition.
- B. Excelsior Mulch: Excelsior mulch shall consist of wood fibers cut from sound, green timber. The average length of fibers shall be 4 to 6 inches. Cut shall be made in such a manner as to provide maximum strength of fiber, but at a slight angle to natural grain of the wood to cause splintering of fibers when weathering in order to provide adherence to each other and to soil.
- C. Wood cellulose fiber shall be made from wood chip particles manufactured particularly for discharging uniformly on the ground surface when dispersed by a hydraulic water sprayer. It shall remain in uniform suspension in water under agitation and blend with grass seed and fertilizer to form a homogenous slurry. Mulch fibers shall intertwine physically to form a strong moisture holding mat on the ground surface and allow rainfall to percolate into underlying soil. The mulch shall be heat processed to contain no germination or growth-inhibiting factors. It shall be dyed (non-toxic) an appropriate color to facilitate metering of material.

2.9 PRODUCT REVIEW

A. Contractor shall provide the Engineer with a complete description of all products before ordering.

The Engineer will review all products before they are ordered.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Areas to be seeded or sprigged shall be made smooth and uniform and shall conform to the finished grade indicated on plans.
- B. Remove foreign materials, plants, roots, stones, and debris from surfaces to be seeded.
- C. Grassing areas, if not loose, shall be loosened to a minimum depth of 3 inches before fertilizer, seed, sprig or sod is applied.
- D. Amendments to soils shall be incorporated into loosened 3 inch top soil layer as recommended by soils test.

3.2 STAND OF GRASS

A. Before acceptance of seeding or sprigging is performed for the establishment of permanent vegetation, Contractor will be required to produce a satisfactory stand of perennial grass whose root system shall be developed sufficiently to survive dry periods and winter weather and be capable of re-establishment in spring. B. Before acceptance of seeding performed for the establishment of temporary vegetation, Contractor will be required to produce a stand of grass sufficient to control erosion for a given area and length of time before the next phase of construction or establishment of permanent vegetation is to commence.

3.3 SEEDING AND SPRIGGING DATES

A. Seeding and sprigging shall be performed during periods and at rates specified in their respective schedules. Seeding and sprigging work may, at discretion of Contractor, be performed throughout the year using schedule prescribed for given period. Seeding and sprigging work shall not be conducted when the ground is frozen or excessively wet. Contractor will be required to produce a satisfactory stand of grass regardless of the period of year work is performed.

3.4 APPLYING LIME AND FERTILIZER

A. Following advance preparation and placing selected material for shoulders and slopes, lime and fertilizer, if called for based on soil tests, shall be spread uniformly over the designated areas, and shall be thoroughly mixed with the soil to a depth of approximately 2 inches. Fertilizer and lime shall be applied at the rate at the rate recommended by required soils test. Unless otherwise provided, lime will not be applied for temporary seeding. In all cases where practicable, acceptable mechanical spreaders shall be used for spreading fertilizer. On steep slopes subject to slides and inaccessible to power equipment, the slopes shall be adequately scarified. Fertilizer may be applied on steep slopes by hydraulic methods as a mixture of fertilizer and seed. When fertilizer is applied with combination seed and fertilizer drills, no further incorporation will be necessary. The fertilizer and seed shall be applied together when Wood Cellulose Fiber Mulch is used. Any stones larger than 2 ½ inches in any dimension, larger clods, roots, or other debris brought to the surface shall be removed.

3.5 SEEDING

- A. Seed shall be sown within 24 hours following application of fertilizer and lime and preparation of the seedbed as specified in Section 3.4. Seed shall be uniformly sown at rate specified by the use of acceptable mechanical seed drills. Rotary hand seeders, power sprayers or other satisfactory equipment may be used on steep slopes or on other areas inaccessible to seed drills.
- B. Seeds shall be covered and lightly compacted by means of cultipacker or light roller if the drill does not perform this operation. On slopes inaccessible to compaction equipment, the seed shall be covered by dragging spiked chains, by light harrowing or by other satisfactory methods.
- C. Apply water with fine spray immediately after each area has been sown.
- D. Do not sow seed when ground is too dry, during windy periods or immediately following a rain.
- E. If permitted by the special provisions, wood cellulose fiber mulch or excelsior fiber mulch may be used.

3.6 SEED PROTECTION (STRAW MULCH)

A. All seeded areas seeded with permanent grasses shall be uniformly mulched in a continuous blanket immediately following seeding and compacting operations, using at least 2 tons of straw per acre.

3.7 SEED PROTECTION (EXCELSIOR MULCH)

A. Seed shall be sown as specified in Section 3.5. Within 24 hours after covering of seed, excelsior mulch shall be uniformly applied at the rate of 2 tons per acre. The mulch may be applied hydraulically or by other acceptable methods. Should the mulch be placed in a dry condition, it shall be thoroughly wetted immediately after placing. Engineer may require light rolling of the mulch to form a tight mat.

3.8 SEED PROTECTION (WOOD CELLULOSE FIBER MULCH)

A. After the lime has been applied and ground prepared as specified in Section 3.4, wood cellulose fiber mulch shall be applied at a rate of 1,500 pounds per acre in a mixture of seed and fertilizer. Hydraulic equipment shall be used for application of fertilizer, seed, and slurry of the prepared wood pulp. This equipment shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend, and homogeneously mix a slurry of the specified amount of fiber, fertilizer, seed, and water. The slurry distribution lines shall be large enough to prevent stoppage. The discharge line shall be equipped with a set of hydraulic spray nozzles which will provide an even distribution of slurry on various areas to be seeded. The slurry tank shall have a minimum capacity of 1,000 gallons.

Seed, fertilizer, wood pulp mulch, and water shall all be combined into the slurry tank for distribution of all ingredients in one operation by hydraulic seeding method specified herein. Materials shall be combined in a manner recommended by the manufacturer. The slurry mixture shall be regulated so amounts and rates of application shall result in a uniform application of all materials at rates not less than amount specified. Using the color of wood pulp as a guide, equipment operator shall spray prepared seedbed with a uniform visible coat. The slurry shall be applied in a sweeping motion, in an arched stream to fall like rain, allowing wood fibers to build upon each other until an even coat is achieved.

3.9 SPRIGGING

- A. Sprigs shall be placed at the date and rates as shown in section 2.6. The sprigging method shall be by broadcast sprigging, hydroplanting or row planter. Sprigging procedure shall ensure even coverage.
- B. Sprigs applied by broadcast over the site with a distributor or hydroseeder shall be planted at the rates listed in section 2.6. Cover broadcast sprigs with straw mulch immediately after broadcast and water in immediately (within 2 hours).
- C. Sprigs installed by row planter creating a narrow furrow that covers 50 to 80% of the sprig with soil may use less sprig material. Rate shall be as recommended by sprig supplier to provide a solid stand of turf within the time required in Section 2.6. Water in immediately (within 1 hour).

3.10 SODDING

A. Sod shall be placed between March 1st and December 1st. However, if sod is to be placed during periods of temperatures over 90 degrees F., the contractor shall take extra care for quick placement of sod with adequate, consistent watering necessary to ensure sod thrives as planted.

- B. Sod shall be placed within 24 hours of cutting.
- C. Place top elevation of sod 1/2 inch below adjoining paving or curbs.
- D. All areas to be sodded shall be brought to the proper line grade or cross section as was existing prior to construction. Sod shall be placed so that, upon completion, the edges of the sodded areas will be smooth and will conform to the proposed finished grade. Sod shall be laid smooth, edge to edge, with staggered joints. Sod shall be immediately pressed firmly into contact with the sod bed by tamping or rolling, to eliminate any air pockets. A true and even surface shall be provided, to insure knitting without displacement of the sod or deformation of the surfaces of the sodded areas. Do not stretch or overlap sod pieces. Following compaction, screened soil of good quality shall be used to fill all cracks, and excess soil shall be worked into the grass with rakes or other suitable equipment. On slopes steeper than 3 to 1, the sod shall be fastened in place with suitable wood or metal pins to hold the sod in place. Any damage by erosion or other causes that may have occurred after completion of grading operations shall be repaired, before commencing with the sodding operations.
- E. Immediately before sodding, moisten topsoil with a fine spray to a minimum 1" depth. Sod shall not be laid on soil that is dry and powdery.
- F. Sod shall be moist when laid and placed on moist ground. The sod shall be carefully placed by hand, beginning at the toe of slopes and working upwards. The length of the strips shall be at right angles to the flow of surface water. All joints shall be tightly butted and end joints shall be staggered at least 12 inches. The sod shall be immediately pressed firmly into the ground by tamping or rolling. Fill all joints between strips with fine screened soil. Sod on slopes shall be pegged with sod pegs to prevent movement. The sod shall be watered, mowed, weeded, repaired, or otherwise maintained, to insure the establishment of a uniform healthy stand of grass until acceptance.
- G. Within 2 hours after sod has been placed, thoroughly water to a minimum depth of 4". After sod and soil have dried, roll sodded areas to ensure good bond between sod and soil and to remove depressions and irregularities. Roll sodded areas with a roller not exceeding 150 lbs. per foot of roller width. Top dress and roll again as necessary to create a smooth even surface.

PART 4 - MAINTENANCE, WARRANTY AND ACCEPTANCE

4.1 MAINTENANCE

- A. Maintenance shall consist of providing protection against traffic, watering to ensure uniform seed germination and to keep surface of soil damp, and repairing any areas damaged as a result of construction operations or erosion. Maintenance shall also include, but is not limited to, watering, weeding, cultivating, removal of dead material, lawn mowing, fertilizing, and other necessary operations.
- B. The Contractor shall maintain all proposed plantings until the date of final acceptance by the Owner.

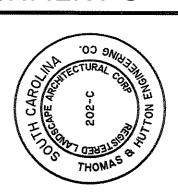
4.2 WARRANTY

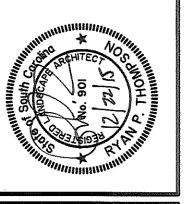
- A. All grassed areas shall be guaranteed by the Contractor to be alive and healthy for a one year period from the date of substantial completion issued by the Owner. A final inspection with the Owner shall be conducted at the end of the warranty period to determine if any areas require replanting. At the end of the warranty period, the sod shall show evidence of rooting to the underlying soil and shall have no competitive weed growth from either the sod or from between the sod joints.
- B. Any grassed area which is dead or not showing satisfactory growth shall be replaced at Contractor's expense at the end of warranty period. All replacements shall be of original quality and of a size equal to adjacent plants or trees of the same kind. Replacements required because of vandalism, excessive use or other causes beyond the control of the Contractor are not part of this contract.

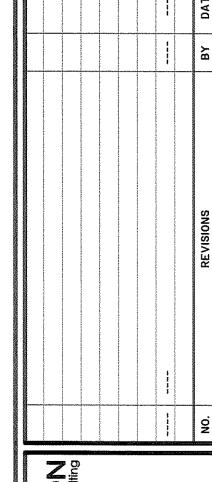
4.3 ACCEPTANCE

- A. Before acceptance of seeding performed for the establishment of permanent vegetation, Contractor will be required to produce a satisfactory stand of perennial grass whose root system shall be developed sufficiently to survive dry periods and winter weather and be capable of reestablishment in spring.
- B. A minimum coverage of 80% density over 100% of the disturbed area is required for seeded areas before project acceptance. Sprig and sod areas shall have 95 % coverage over 100% of the disturbed area prior project acceptance.

END OF SECTION







FHOMAS & HUTTON
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50 Park of Commerce Way
Savannah, GA 31405 • 912.234,5300

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JOB NO: J-25687.0000
DATE: I2-22-I5
DRAWN: RPT
DESIGNED: RPT
REVIEWED: SKM
APPROVED: RPT

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UICHWAY COORIDOR REVIEW LANDSCAPE PLANS

BLUFFTON, SC

PREPARED FOR: JJL, INC. 12020 ABERCORN STREET SAVANNAH, GA 31416

TM# R610 022 000 0574 0000, R610 022 000 0575 0000, R610 022 000 0576 0000, R610 022 000 1069 0000, & R610 022 000 1070 0000

DECEMBER 22, 2015

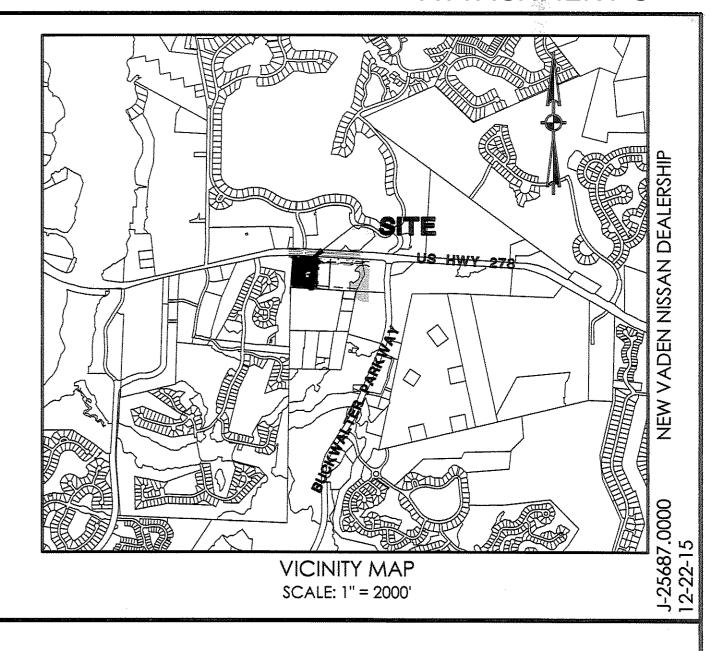
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PREPARED BY:

THOMAS & HUTTON
Engineering | Surveying | Planning | GIS | Consulting







	Sheet List Table					
Sheet Number	Sheet Title					
СО	COVER SHEET					
LA1.1	LANDSCAPE PLAN					
LA1.2	LANDSCAPE PLAN					
LA1.3	PLANT SCHEDULE AND BUFFER SUMMARY					
LA2.1	PLANTING DETAILS AND NOTES					
LA2.2	LANDSCAPING SPECIFICATION					
LA2.3	GRASSING SPECIFICATION					

	REVISION HISTORY		

REV. NO.	REVISION	BY	DATE

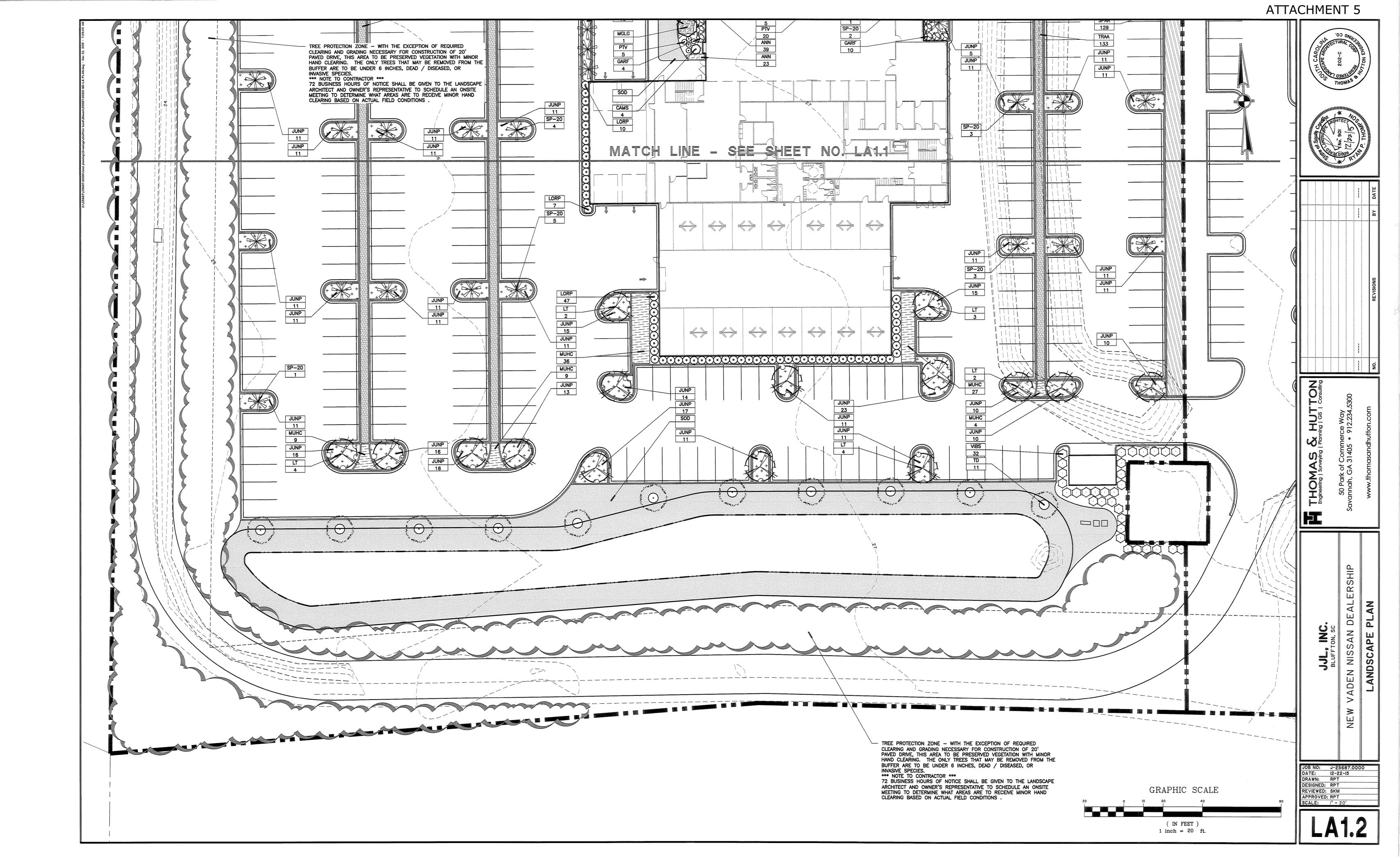
SUBMITTAL HISTORY	
SUBMITTED TO BLUFFTON FOR HCOD REVIEW	12/22/1
SUBMITTED TO	DATE

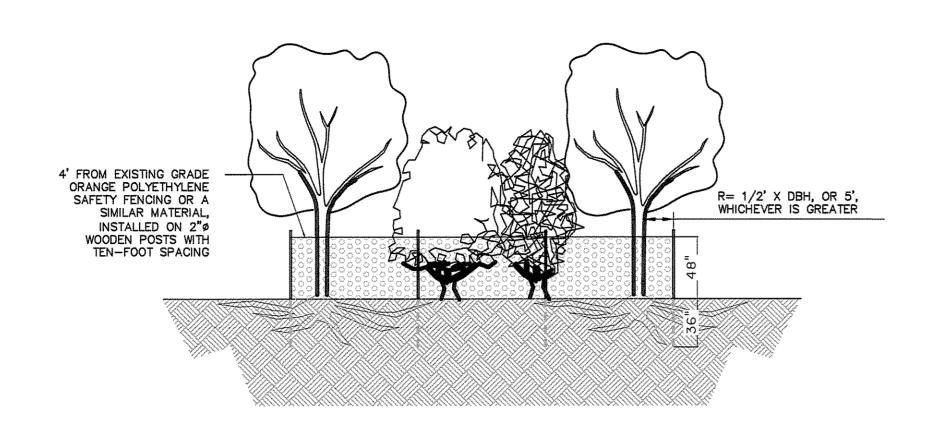




50 Park of Commerce Way Savannah, GA 31405 p.912.234.5300 f.912.234.2950

HIGHWAY COOKIDOK K	KEVIEW LANDSCAF
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TREE PROTECTION DETAIL NOT TO SCALE

PLANT SCHEDULE

EXIS1	TING PLAI	NTS				
QNTY	ABBRV	SCIENTIFIC NAME		PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
4	E-LJ		Existing Japanese Ligustrum	N/A N/A		Existing Japense Ligustrum to Remain in Buffer
3	E-10			N/A N/A		Existing American Holly to Remain in Buffer
28	E-CM			N/A N/A		Existing Crape Myrtle to Remain in Buffer
57	E-IVD		Existing Dwarf Yaupon Holly	N/A N/A		Existing Dwarf Yaupon to Remain in Buffer
13	E-SG		Existing Sweet Gum	N/A N/A		Existing Sweet Gum to Remain in Buffer
44	E-PN			N/A N/A		Existing Pine to Remain in Buffer
17	E-VIBS		Existing Sandankwa Viburnum	N/A N/A		Existing Sandankwa Viburnum to Remain in Buffer
13	E-WO		Existing Water Oak	N/A N/A		Existing Water Oak to Remain in Buffer

HIGHWAY 278 BUFFER SUMMARY

- ± 536 L.F.

- 5.36

- 33

- 42

- 161

TOTAL FRONTAGE ALF FRONTAGE

REQUIRED PLANT MATERIAL FACTOR (L.F. / 100)

PROVIDED UNDERSTORY TREES

REQUIRED SHRUBS

REQUIRED BROADLEAF OVERSTORY TREES

REQUIRED UNDERSTORY TREES
(5.36 X 7= 38 + 5 ADDITIONAL FROM UTILIZING CONEBEARING OVERSTORY)

PROVIDED BROADLEAF OVERSTORY TREES
(EXISTING BROADLEAF OVERSTORY - 13 WATER OAK , 2 - 20' PALMS AND 13 SWEET GUMS
(EXISTING CONEBEARING OVERSTORY - 43 PINES (COUNT 3 FOR 1)

(EXISTING UNDERSTORY - 4 AMERICAN HOLLIES AND 28 CRAPE MYRTLES PROPOSED PLANTED UNDERSTORY - 10 WAX MYRTLES AND 5 TREE FORM YAUPON HOLLIES

PROVIDED SHRUBS
(EXISTING SHRUBS - 4 LIGUSTRUM, 57 DWARF YAUPON, AND 17 SANDANKWA VIBURNUM PROPOSED PLANTED SHRUBS -26 LOROPETALUM, 2 SAW PALMETTO, 43 MRS. SCH. VIBIRNUM, 20 SANDANKWA VIBURNUM

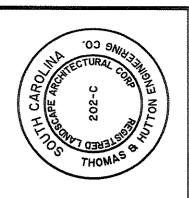
BUFF	ER PLAN	ITNGS				
QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
5	IV-B	llex vomitoria	Yaupon Holly	B & B OR CONT. ; I-I/2" Cal. Min., 8' Ht. Min.	AS SHOWN	Specimen, Full
26	LORP-B	Loropetalum chinense 'Ruby'	Ruby Loropetalum	CONT. ; 30" Ht. Min.	AS SHOWN	Full
10	мс-в	Myrica cerifera	Wax Myrtle	B & B OR CONT. ; I-I/2" Cal. Min., 8' Ht. Min.	AS SHOWN	Full to ground
2	SP-20-B	Sabal palmetto	Sabal Palm	Bare Root 22' - 24' Trunk HT.	AS SHOWN	Palms shall be refoliated. Stagger HTs>20' Ht. counts toward Broad-Leaved Overstory Tree
2		I			AS SHOWN	Full
43	VIBO-B	Viburnum Obovatum 'Mrs. Schiller's Delight'	Viburnum 'Mrs. Schillers Delight'	CONT. ; 30" Ht. Min.	AS SHOWN	Full
20	VIBS-B	Viburnum suspensum	Sandankwa Viburnum	CONT. ; 30" Ht Min.	AS SHOWN	Full to ground

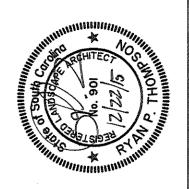
TREE	S					
QNTY	ABBRV	SCIENTIFIC NAME CO	OMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
12	AB	Acer buergerianum 'ABMTF' Ae	eryn Trident Maple	B & B OR CONT. ; 3" CAL., 12-14' HT. MIN.	AS SHOWN	Specimen, Single Trunk,
33	LT	Liriodendron tulipfera 'Arnold' Arr	rnold Tulip Poplar	B & B OR CONT. ; 3" Cal. Min., 14-16' Ht.	AS SHOWN	Specimen
2	MGLG	Magnolia grandiflora 'Little Gem' 'Lit	ittle Gem' Southern Magnolia	B & B OR CONT. ; 2" Cal. Min., 8' Ht.	AS SHOWN	Specimen, Full to Ground
11	TD	Taxodium distichum Bal	ald Cypress	B & B OR CONT. : 3" Cal. Min., 14-16' Ht.	AS SHOWN	Specimen

PALN	S	*				
QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
40	SP-20	Sabal palmetto	Sabal Palm	Bare Root 22' - 24' Trunk HT.	AS SHOWN	Palms shall be refoliated. Stagger HTs>20' Ht. counts toward Broad-Leaved Overstory Tree
18	TRAF	Trachycarpus fortunei	Windmill palm	15 GAL.; 36" Ht. Min.	AS SHOWN	Full

SHRU	38					
QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
4	CAMS	Camellia sasanqua 'Leslie Ann'	'Leslie Ann' Camellia	CONT. ; 5' HT.,	AS SHOWN	Full
14	GARF	Gardenia jasminoides 'Frostproof'	Frostproof Gardenia	CONT. : 20" x 20"	AS SHOWN	Full
80	LORP	Loropetalum chinense 'Ruby'	Ruby Loropetalum	CONT. ; 20" x 20"	AS SHOWN	Full
54	PTV	Pittosporum tobira 'Dwart Variegated'	Variegated Dwart Pittosporum	CONT. ; 15" HT. X 15" SPD.	AS SHOWN	Full to ground
5	PM	Podocarpus macrophyllus 'Maki'	Southern Yew	CONT. ; 6' HT. X 2.5' SPD.	AS SHOWN	Full, matched plants. Allow to grow to / maintain at a 6' ht.
32	VIBS	Viburnum suspensum	Sandankwa Viburnum	CONT.: 20" X 20"	AS SHOWN	Full

ORNAM	ENTAL C	GRASSES AND GROUNDCOVERS				
QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
285	ANN	-	Seasonal Color	I GAL. ; 12" O.A. HT.	12"	Species to be selected by owner. Plant at appropriate spacing to create immediate solid mass. Plant in 6 to 9" garden soil mound.
33,000 S.F.	SOD	Eremochloa ophiuroides	Centipede Grass	Dense roots		Dense roots
'88	JUNP	Juniperus squamata expansa 'Parsonii'	Parson's Juniper	I GAL :	3.5'	Full
8	LISB	Liriope muscari 'Super Blue'	"Super Blue" Liriope	I GAL. ; 9° O.A. HT. MIN.	2'	Full
35	MUHC	Muhlenbergia capillaris	Pink Muhly Grass	I GAL. ; IO" X I8"	3'	Full
7	ROSA	Rosa'Meijocos' PP#18874 CPBRAF	Pink Drift Rose	I GAL. ; 8" O.A. HT.	2'	Full
32	SPAR	Spartina bakeri	Cord Grass	I GAL. ; 12" X 18"	4'	Full
19	TRAA	Trachelospermum asiaticum	Asiatic Jasmine	I GAL. ; 4" X 8"	2.5'	Full, Min.of IO, I2" long runners. Bring runners above mulch.





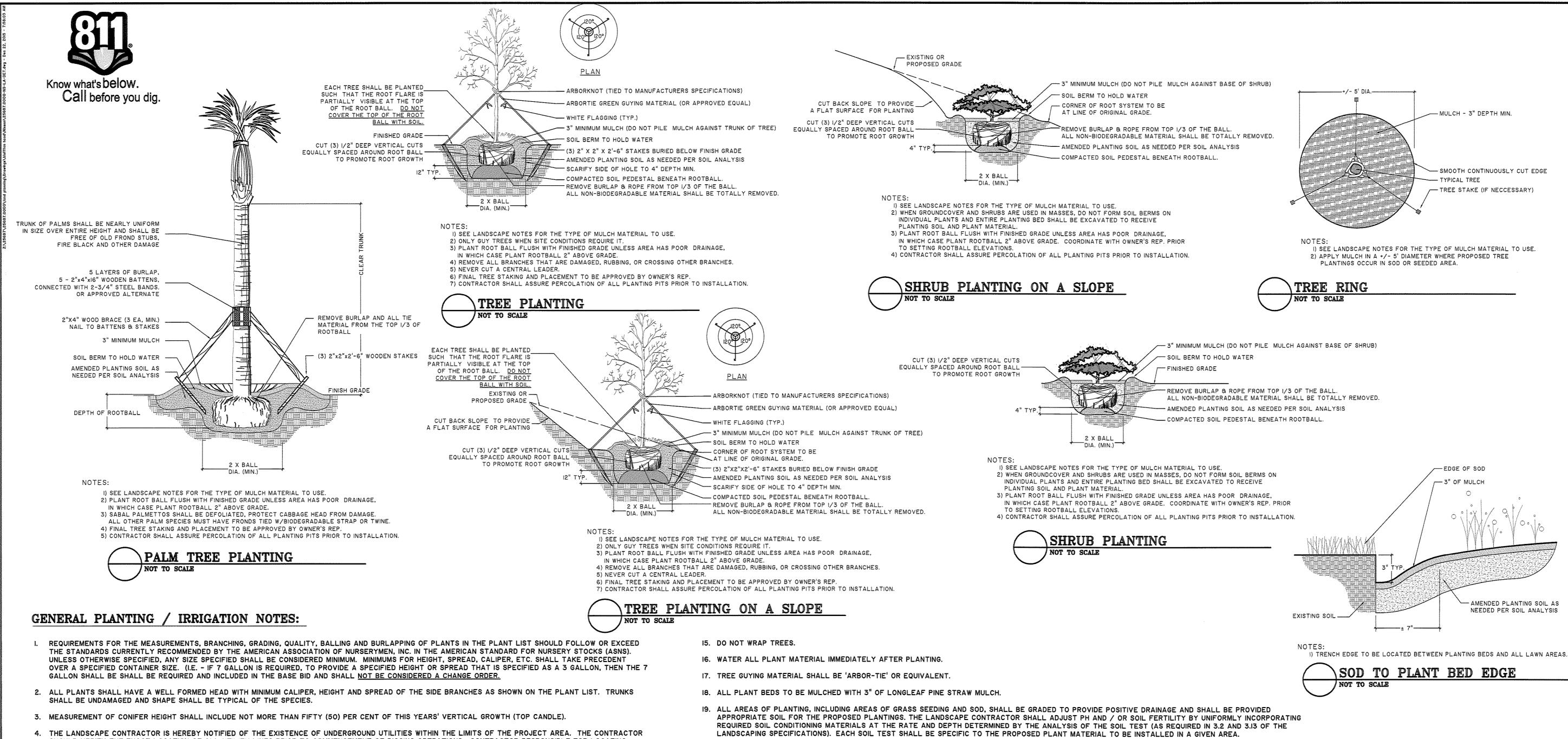
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JJL, INC.
BLUFFTON, SC

NEW VADEN NISSAN DEALERSHIP
PLANT SCHEDULE AND BUFFER SUMMARY

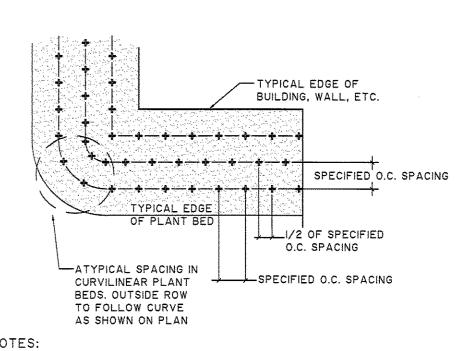
JOB NO: J-256
DATE: 12-22DRAWN:
DESIGNED:
REVIEWED:
APPROVED:
SCALE: |" = 20'



- SHOULD VERIFY THE EXACT LOCATION OF ALL UTILITY LINES PRIOR TO COMMENCEMENT OF DIGGING OPERATIONS. CONTRACTOR RESPONSIBLE FOR LOCATING, PROTECTING, AND REPAIRING ALL DAMAGE TO BUILDINGS, UTILITIES, PAVEMENT, AND CURB & GUTTER. ANY REPAIRS SHALL BE DONE PROMPTLY AT CONTRACTOR'S
- 5. THE CONTRACTOR WILL BE RESPONSIBLE FOR STAKING AND LAYOUT OF PLANTINGS ON THIS PROJECT. THE LANDSCAPE ARCHITECT OR OWNER SHALL BE ADVISED WHEN STAKES ARE READY FOR INSPECTION ON VARIOUS PLANTING AREAS. ALL LAYOUT WORK SHALL BE INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT AND OWNER PRIOR TO OPENING ANY PLANTING PITS.
- 6. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO VERIFY THAT EACH EXCAVATED TREE OR SHRUB PIT WILL PERCOLATE (DRAIN) PRIOR TO ADDING TOPSOIL AND INSTALLING TREES OR SHRUBS. THE CONTRACTOR SHALL FILL THE BOTTOM OF HOLES WITH SIX (6) INCHES OF WATER. THIS WATER SHOULD PERCOLATE WITHIN A TWENTY-FOUR (24) HOUR PERIOD. IF WATER DOESN'T PERC, CONTRACTOR SHALL NOTIFY THE OWNER'S REP PRIOR TO INSTALLING PLANTS.
- SHOULD THE LANDSCAPE CONTRACTOR ENCOUNTER UNSATISFACTORY SURFACE OR SUBSURFACE DRAINAGE CONDITIONS, SOIL DEPTH, LATENT SOILS, HARD PANS, STEAM OR OTHER UTILITY LINES OR OTHER CONDITIONS THAT WILL JEOPARDIZE THE HEALTH AND VIGOR OF THE PLANTS, HE MUST ADVISE THE LANDSCAPE ARCHITECT IN WRITING OF THE CONDITIONS PRIOR TO INSTALLING THE PLANTS. OTHERWISE, THE LANDSCAPE CONTRACTOR WARRANTS THAT THE PLANTING AREAS ARE SUITABLE FOR PROPER GROWTH AND DEVELOPMENT OF THE PLANTS TO BE INSTALLED.
- 8. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING UP THE SITE AT THE COMPLETION OF THE PROJECT AND SHALL MAINTAIN THE SITE IN A REASONABLY NEAT AND CLEAN STATE THROUGHOUT THE INSTALLATION PROCESS. STREETS AND PAVED AREAS SHALL BE CLEANED REGULARLY TO REMOVE CONSTRUCTION MATERIALS AND OTHER DEBRIS RESULTING FROM WORK OF THE PROJECT.
- 9. REPLACEMENTS OF DEAD OR UNSATISFACTORY MATERIAL SHALL BE MADE AS SPECIFIED IN THE PLANT LIST. THE OWNER OR LANDSCAPE ARCHITECT SHALL INSPECT REPLACED PLANTS WHEN ALL REPLACEMENTS HAVE BEEN MADE. REPLACEMENTS ARE TO BE ALIVE AND IN A HEALTHY CONDITION WHEN THE REPLACEMENTS ARE COMPLETE. REPLACEMENTS ARE NOT SUBJECT TO AN ADDITIONAL GUARANTEE, BUT THE LANDSCAPE CONTRACTOR SHALL CONSULT WITH THE LANDSCAPE ARCHITECT ON REASON FOR PLANT DECLINE/DEATH AND HOW TO AVOID FUTURE INSTANCES.
- IO. SHOULD THE CONTRACTOR NOT MAKE REPLACEMENTS IN A SATISFACTORY AND TIMELY FASHION IN ACCORD WITH THE PLANTING NOTES, THE OWNER, AFTER PROPER NOTIFICATION TO THE CONTRACTOR MAY UTILIZE THE FUNDS OF THE RETAINAGE TO HAVE THE REPLACEMENTS MADE IN ACCORDANCE WITH THE SPECIFICATIONS BY ANOTHER CONTRACTOR.
- II. NO EXCAVATION OR PLANTING PIT SHALL BE LEFT UNATTENDED OVERNIGHT.
- 12. PLANT MATERIAL QUANTITIES PROVIDED IN THE PLANT LIST ARE FOR REFERENCE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR THE ACTUAL PLANT MATERIAL COUNTS. DISCREPANCIES BETWEEN QUANTITIES SHOWN ON THE PLANTING PLAN AND THOSE IN THE PLANT LIST SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION. IF CLARIFICATION OF DISCREPANCIES FROM THE LANDSCAPE ARCHITECT IS NOT POSSIBLE, THEN QUANTITIES SHOWN ON THE PLANTING PLAN SHALL TAKE PRECEDENCE.
- 14. REMOVE PAPER, PLASTIC OR METAL AROUND ROOT BALLS OF SHRUBS.

- 20. ALL EXISTING VEGETATION WITHIN AREAS TO BE PLANTED / SODDED / SEEDED SHALL BE REMOVED PRIOR TO PLANTING / SODDING / SEEDING. ALL AREAS INDICATED TO BE GRASS SEED SHALL BE HYDROSEEDED PER EROSION SEDIMENT CONTROL SPECIFICATIONS FOR PERMANENT STABILIZATION.
- 21. CONTRACTOR TO SUPPLY AUTOMATIC IRRIGATION SYSTEMS, COMPLETE AND INSTALLED. SYSTEM TO INCLUDE ALL VALVES, PIPES, HEADS, FITTINGS, RAIN SENSOR, AND CLOCK AND TO PROVIDE 100% COVERAGE OF ALL NEW SODDED AND IMPROVED EXISTING GRASS AREAS, TREES, SHRUBS AND PLANTING BEDS. COORDINATE IRRIGATION WITH OWNER'S REPRESENTATIVE. (CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF PROPOSED IRRIGATION SYSTEM FOR OWNER ACCEPTANCE)
- 22. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR AUTOMATIC IRRIGATION SYSTEMS. CONTRACTOR SHALL PROVIDE ELECTRIC METER AND SERVICE IN ACCORDANCE WITH STATE AND LOCAL CODES FOR IRRIGATION SYSTEM. LOCATION OF METERS AND CONTROL PANELS FOR IRRIGATION SHALL BE APPROVED BY OWNER'S REP. PRIOR TO INSTALLATION.
- 23. ALL TREES SHALL BE INSTALLED PER THE REQUIREMENTS OF THE BLUFFTON, SC APPLICABLE ORDINANCES.
- 24. ALL PLANT BEDS TO RECEIVE WEED INHIBITOR OF PREEN OR ACCEPTED ALTERNATE.
- 25. FOR SUMMERTIME PLANTINGS, CONTRACTOR TO USE EITHER CONTAINERIZED OR PRE-DUG B & B PLANT MATERIAL
- 26. AS AN ADD ALTERNATE IN THE BID, THE CONTRACTOR SHALL PROVIDE "SOIL MOIST TRANSPLANT" (OR ACCEPTED EQUIVALENT) AT THE APPLICATION RATES SHOWN BELOW FOR ALL NEWLY INSTALLED PLANTINGS.

Container Size/Amount	Caliper Size/Amount
1 Gallon/.75 oz.	1*/3.0 oz.
2 Gallon/1.5 oz.	2"/6.0 oz.
3 Gallon/1.5 oz.	3"/9.0 oz.
5 Gallon/2.0 oz.	4" /12.0 oz.
7 Gallon/3.0 oz.	5" /15.0 oz
10 Gallon/3.0 oz.	6°/18.0 oz
15 Gallon/5.0 oz.	7"/21.0 oz
20 Gallon/7.0 oz.	8*/24.0 oz
Plant Height/Amount	Box Size/Amount
2'/1.5 oz.	16"/5.0 oz.
3'/2.0 oz.	20"/6.0 oz.
4'/3.0 oz.	24"/9.0 oz.
5'/4.0 oz.	30°/12.0 oz.
6 ¹ /5.0 oz.	36*/18.0 oz
7 ² /6.0 oz.	42"/27.0 oz
•	60°/30.0 oz.



I) EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER PLANTING TO A DEPTH OF 12".

PLANT SPACING DETAIL



DEALERSHIP AND NOTES Z ∥ W Z ADEN 9 >

DRAWN: DESIGNED: RPT REVIEWED: SKM APPROVED: RPT CALE: N.T.S.

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LANDSCAPING

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work covered in this section consists of soil preparation, fine grading, lawns, trees, shrubs and ground cover plantings, their protection and maintenance of planted areas until acceptance.

1.2 RELATED WORK

A. See Civil and Landscape plans and specifications.

1.3 QUALITY ASSURANCE

- A. Qualifications of Workmen: Contractor shall provide at least one person present at all times during execution of work that is thoroughly familiar with the type of materials being installed and proper equipment and methods for their installation and who shall direct all work performed under this section.
- B. Standards: All seed, sod, trees, shrubs, and ground covers shall meet or exceed the specifications of Federal, State, County and / or Municipality laws requiring inspection for disease and insect control.
 - Plants and planting methods shall conform to the latest edition of American Standard for Nursery Stock, American Nursery & Landscape Association, 1000 Vermont Avenue, NW, Suite 300, Washington, DC 20005
 - 2. Plants shall be true and representative of their genus, species, cultivar, or variety. Nursery stock shipped in accordance with the required specifications shall be deemed to be acceptable within the terms of this section if it is typical in size and habit for the species in the region of the country in which it is grown unless the specifications include additional details.
 - 3. One of each bundle or lot shall be tagged with name and size of the plant in accordance with American Nursery & Landscape Association standards. In all cases, botanical names shall take precedence over common names. Landscape Architect should be consulted in the event questions arise about nomenclature of plants to be used and their availability.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging and location of packaging. Damaged packages are not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.
- C. Deliver sod on pallets.
- D. Handling of plants shall be by lifting the root mass or container and not by lifting plant by trunk or branches. Handling of plants in an improper fashion shall be cause for rejection of plant materials. Care must be taken during all phases of the location and planting procedures not to damage root system, trunk or branches. All plant materials shall be planted as soon after arrival at the site as possible. Contractor is responsible for keeping plants safe from injury by the construction activity and watered to prevent drying out before planting. Balled and burlapped plants shall be "Healed-in" and protected with burlap or other accepted material if they cannot be planted upon delivery. Plants with broken major branches, badly bruised or damaged bark are not acceptable and will be rejected.

1.5 PLANTING DATES

- A. The planting season for trees, shrubs and groundcovers is between October 1st and June 1st of the following year. Do not plant if temperature is below freezing or above 90 degrees. Planting at any other time other than the planting season is the Contractor's option and full responsibility and without additional compensation. Planting may, at the option of the Contractor, be postponed into the following planting season but without additional compensation provided the Owner and local governing jurisdiction have approved.
- C. Planting dates for sod, sprigging or seeding shall be per the grassing specification.

1.6 MEASUREMENT AND PAYMENT

- A. Measurement The items listed in the proposal shall be considered as sufficient to complete the work in accordance with the plans and specifications. Any portion of the work not listed in bid form, but required to complete the work, shall be deemed to be a part of the item with which it is associated and shall be included in the cost of the unit shown on the bid form.
- B. Payment Payment for the unit shown on the bid form shall be considered to cover the cost of all labor, material, equipment, and performing all operations necessary to complete the work in place. No payment will be made for any material wasted, used for the convenience of the Contractor, unused or rejected.
- Trees, Shrubs, and Groundcovers Will be paid for at the contract unit price for planted/installed and accepted trees, shrubs, and groundcovers.
- 2. Payment for grassing will be made per the grassing specification.
- 3. Clearing Will be paid for at the lump sum price for clearing.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Contractor shall, at time of delivery, furnish Owner and / or Landscape Architect with invoices of all materials received; in order the quality and source of materials may be reviewed.

2.2 TOPSOIL

A. See Earthwork specification for topsoil / rootzone soil specification.

2.3 SEED

A. See grassing specification.

2.4 SPRIG

A. See grassing specification.

2.5 SOD

A. See grassing specification.

2.6 PLANT MATERIALS

- A. Provide all plant materials as indicated on the plans. In the event of any discrepancies between quantities of plants indicated on the plant schedule and those indicated on the plan, plan quantities shall govern.
- B. Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall be free of disease, insect pests, eggs or larvae, and shall have healthy, well developed root systems. Plants shall be from a nursery within 300 miles north or south of the project location and shall have been grown under climate conditions similar to those in the locality of project. Trees for planting in rows shall be uniform in size and shape.
- B. Plants shall possess a normal balance between height and width. Plants shall be measured when branches are in their normal position. Height and spread dimensions specified refer to the main body of plant and not from branch tip to tip. Plants larger in size than specified may be used with no change in contract price.

LANDSCAPING SPECIFICATION

- C. Plants shall be dug with firm natural balls of earth, of diameter not less than recommended by American Standard for Nursery Stock and of sufficient depth to include fibrous and feeding roots. Plants will not be accepted if ball is cracked or broken before or during planting operations.
- D. Trees specified for <u>Street Tree Grade</u> shall conform to standards of the A.N.L.A.:
- Suitable for planting as street trees.
- 2. Free of branches to approximately 50% of height from ground.
- 3. Crown of tree shall be in good balance with the trunk.

2.7 FERTILIZER

A. Commercial fertilizer shall be slow release 5-10-10 or 6-12-12 (or as recommended by soil test), uniform in composition, free flowing, and suitable for application with appropriate equipment. Deliver to site unopened in manufacturer's standard containers showing weight, analysis and name of manufacturer. If stored on site, protect from the elements.

2.8 PEAT MOSS

A. Peat moss shall be finely shredded, 90% organic moss peat, brown in color and suitable for horticultural purposes. Peat shall be measured in air dry condition, containing not more than 35% moisture by weight. Ash content shall not exceed 10%.

2.9 MULCH FOR TREES, SHRUBS, AND GROUND COVERS

- A. Mulch for non bio-retention areas shall be as shown on plans.
- B. Mulch for bio-retention areas shall be shredded hardwood.

2.10 STAKING EQUIPMENT

A. Trees and palms shall be staked as shown in landscape plans.

2.11 WATER

A. The water source on the project for permanent irrigation shall be via pumping from the existing and proposed ponds with a back-up connection to the potable water system per requirements of BJWSA for such systems.

PART 3 - EXECUTION

3.1 FINE GRADING

- A. All areas within limits of construction shall be fine graded to the desired grades. All areas within limits of construction are to be fine graded, free of roots, debris and/or other objectionable material, before planting or grassing commence. Any additional fill material needed to fill low or uneven areas shall be provided by the Contractor. Positive drainage away from structures shall be provided in all plant beds so standing water does not occur. Planting beds shall be raised above adjacent lawn areas to provide acod drainage conditions.
- B. Planting and grassed areas, if not loose, shall be loosened to a minimum depth of 3-inches before fertilizer, seed or sod is applied.

3.2 FERTILIZER AND SOIL AMENDMENTS

- A. Contractor shall provide Topsoil Analysis Tests that has been performed by a State Agricultural Experiment Station, Soil and Water Conservation District, State University, or other qualified private testing laboratory, as approved by Landscape Architect.
- B. Apply fertilizer and soil amendments after fine grading and mix thoroughly into upper 2 inches of soil.
- C. Fertilizer and other necessary soil amendments shall be applied at the rate recommended by Topsoil Analysis Test.

3.3 SODDING

A. See grassing specification.

3.4 SPRIGGING

A. See grassing specification.

3.5 SEEDING

A. See grassing specification.

3.6 SEED PROTECTION

A. See grassing specification.

3.7 LAYOUT OF TREES, SHRUBS, AND GROUND COVERS

A. All plants shall be placed in the proper location as shown on construction plans, allowing Landscape Architect to review all plant locations prior to actual planting. Landscape Architect may make minor adjustments which shall not be cause for changes to the contract price.

3.8 OBSTRUCTIONS BELOW GROUND

- A. Prior to excavating planting holes, Contractor shall determine the exact location of electrical, phone, or television cables or conduits, water, drainage or sewer lines, and any other subsurface structures and take precautions to protect them. Any damage to underground utilities shall be repaired immediately at the Contractor's expense.
- B. In the event rock, underground construction work, or other obstructions are encountered in any plant hole excavation under this contract, alternate locations may be selected. Where locations cannot be changed, the obstructions shall be removed to a depth of not less than three (3) feet below grade and not less than six (6) inches below bottom of ball or roots when plant is properly set at the required grade. The Contractor shall be responsible for the removal of such rock or other underground obstructions encountered.

3.9 PLANTING HOLES

A. For trees, shrubs and ground covers the planting hole shall be as shown on planting details in the plans. Do not leave planting holes open overnight. In the event that plant holes are dug and not planted in a timely manner, install four (4) foot high orange safety fencing around all excavated areas.

3.10 PLANTING TREES AND SHRUBS

- A. Shall be same as grown in the nursery and/or container soil level. Adjust bottom soil mix to insure proper planting level with the proposed surrounding grades. Check plants to insure proper vertical alignment.
- B. Fill holes to proper height to receive plant, and thoroughly tamp before setting the plant. Set plant in upright position in the center of the hole, and compact the backfill mixture around the ball or roots. Add soil amendments as required to improve fertility of existing soil and plant growing conditions.
- 1. When balled or burlapped plants are set, compact topsoil around base of ball to fill all voids. All bindings shall be removed and the top half of burlap removed from around root ball. If burlap is made of natural fibers it can be laid back from the root mass or can be cut away. Remove all burlap if it is made of non-degradable material/fabric. All weeds growing on the root mass shall be removed prior to planting.

- 2. Containerized plants shall have the container removed prior to planting. Care shall be taken to protect root mass from injury and the root mass intact. If root mass shows evidence of being bound or matted, three vertical 1/2" deep cuts shall be made on alternate sides of the root mass and roots pulled away slightly. This is to untangle roots which have begun to "circle" the root mass and to encourage new root growth. All weeds growing in the root mass shall be removed prior to planting.
- 3. Roots of bare root plants shall be spread out and topsoil carefully worked in among them. Remove with a clean cut, any broken or frayed roots.

3.11 PLANTING GROUND COVERS

A. Planting beds shall be thoroughly worked to a depth of twelve (12) inches incorporating fertilizer and other soil improvements at the recommended rate suggest by the soils test. Rake prepared planting bed until level, smooth and free from all soil, lumps, rocks, sticks and other deleterious materials. Bed area should be neatly outlined. Space the plants evenly as indicated on the drawings. Plant only in soil that is moist and friable, and not wet or soggy. In the case of planting in the open on hot days, shorten the time between planting and watering.

3.12 WATERING

- A. Thoroughly water each plant when the hole is 1/3 full, again at 2/3 full and then complete backfilling. Once backfilling is complete, water again, then tamp the soil in place until the surface of the backfill is level with the surrounding area and the plant bears the same relation of finished grade as it bore to existing grade before being dug.
- B. Earth saucers shall be constructed around the perimeter of planting holes of all trees and all single planted shrubs. Earth saucers shall be minimum 3" high and compacted to retain water. Earth saucers shall not be installed in areas where the subsoil is very poorly drained or around mass shrub / groundcover plantings.
- C. All trees and shrubs to be hand watered on a regular basis as necessary during the warranty period.

3.13 SOIL MIX

A. Shall be per Earthwork and other applicable civil/landscape specifications and recommended amendments from soils test.

3.14 STAKING OF TALL PLANTS

A. Shall be done only if site / environment conditions make if required. If required, trees and palms shall be staked as indicated on the plans.

3.15 MULCHING

completely mulched to the limits of the bed as shown on the plans. Limit of mulching for individual trees and shrubs shall be slightly beyond the saucer berm. The areas mulched shall be tidy and clean in appearance.

A. All plants shall be mulched with an evenly thick layer of clean mulch immediately after planting. Mass plant beds shall be

3.16 PRUNING

A. Remove dead, broken or bruised branches after planting using clean, sharp tools.

3.17 WEEDING

A. All planted areas shall be kept free from weeds and undesirable grasses until final acceptance by the Owner. See General notes on plans for additional information.

3.18 INSECT AND DISEASE CONTROL

A. All plant materials shall be disease or insect free upon arrival to the site, however, should any plants show signs of insect or disease infestations, Contractor shall identify nature of infestation and submit to Landscape Architect a proposed method of control. Contractor shall treat all infested plants at its expense. Should the infestation be wide spread and uncontrollable, plants affected shall be removed from site, fresh plants brought in and all other plants treated to prevent infestation of remaining plants at Contractor's expense.

3.19 CLEAN UP

A. Contractor is responsible for removing all trash, debris, rubbish and all other materials associated with the construction from site on a daily basis. All tags, flags, and labels will be removed from plants and trees. The site shall be left broom clean and tidy. Clean up of the site is a prerequisite to final acceptance by the Owner.

PART 4 - MAINTENANCE AND WARRANTY

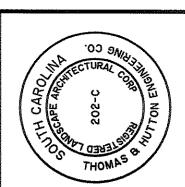
4.1 MAINTENANCE

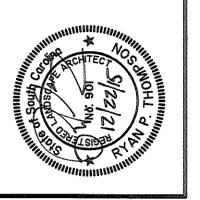
- A. Protect all plantings (grass, plants and trees) until accepted by Owner. All damage, regardless of cause, shall be immediately repaired and plants replaced if necessary. Erect temporary fences, barricades, signs and other protection as needed to prevent trampling. Contractor is not responsible for replacement of damaged or missing plants and plant materials due to vandalism or other acts beyond the control of the Contractor if proper barriers or other safeguards have been maintained.
- B. Maintenance shall include but is not limited to watering, weeding, cultivating, removal of dead material, mulch reapplication, resetting plants to proper grades or upright position, lawn mowing, fertilizing, and other necessary operations.
- C. The Contractor shall repair immediately any areas damaged as a result of construction operations or erosion.
- E. The Contractor shall maintain all proposed plantings until final acceptance is issued by the Owner.
- F. At the end of the maintenance period, all plants shall be in a healthy growing condition. During the maintenance period, should the appearance of any plant indicate weakness and probability of dying, immediately replace without additional cost to the Owner. Replacements required because of vandalism or other causes beyond the control of the Contractor are not part of this contract.

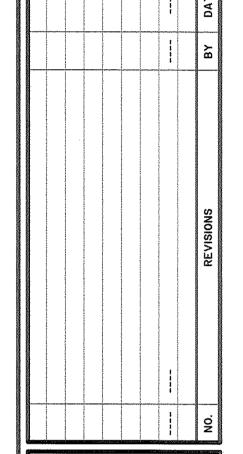
4.2 WARRANTY

- A. All shrubs, ground cover, and trees shall be guaranteed by the Contractor to be alive and healthy for a one year period after substantial completion is issued by the Owner. A final inspection with the Owner shall be conducted at the end of the warranty period to determine if any plants will be required to be replaced.
- B. Any lawn, plant, or tree which is dead or not showing satisfactory growth shall be replaced at Contractor's expense at the end of warranty period. All replacements shall be of original quality and of a size equal to adjacent plants or trees of the same kind.

END OF SECTION







50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

SAN DEALERSHIP
SPECIFICATION

NEW VADEN NISSAN

JOB NO: J-25687.0
DATE: I2-22-I5
DRAWN: RPT
DESIGNED: RPT
REVIEWED: SKM
APPROVED: RPT

SCALE: N.T.S.

LA2.2

GRASSING SPECIFICATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Seeding, planting grass, and fertilizing graded areas around buildings, structures, soccer fields and sidewalk shoulders and other disturbed areas.
- B. Seed protection.
- C. Maintaining grassed areas until final acceptance.

1.2 RELATED WORK

A. Civil and Landscape plans and specifications.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging, and location of packaging. Damaged packages are not acceptable. Store in cool, dry locations away from contaminants.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer. Damaged bags are not acceptable. Store in cool, dry locations away from contaminants.
- C. Deliver sod on pallets.
- D. All material shall be acceptable to Engineer prior to use.

1.4 PLANTING DATES

A. This specification provides for establishment of a permanent grass cover between the dates of March 1 and September 30. If finished earth grades are not completed in time to permit planting and establishment of permanent grass during the favorable season between dates specified above unless otherwise accepted, Contractor will be required to plant a temporary cover to protect new graded areas from erosion and to keep windborne dust to a minimum. The temporary cover shall be planted between October 1 and February 28 unless otherwise permitted.

1.5 MEASUREMENT AND PAYMENT

- A. When the season or stage of project is such results of grassing work cannot be determined, conditional acceptance will be made on work completed. When conditional acceptance is made for items of work covered, Contractor shall be entitled to 50% of bid price for the actual work placed and shall receive remaining 50% of bid price when final acceptance is made. Conditional acceptance shall not apply to the remaining items of work, and full bid price payment shall be made when work is acceptably placed and completed in accordance with specifications.
- B. Payment for grassing will be made at contract unit price for the item "Grassing" and such payment shall constitute full compensation for furnishing and placing seed and fertilizer or sod where directed and protecting and maintaining seed and sod in all graded and disturbed areas.

PART 2 - PRODUCTS

Contractor shall submit source and species certification documents to Engineer and Owner's Representative for review prior to installation. Supply complete information on all analysis / test methodologies and results; laboratory certifications, manufacturer's specifications, and agency approvals to the Landscape Architect prior to placement of soil mixtures. In addition, provide the Landscape Architect with thoroughly mixed sample of soil mixes for approval prior to placement. Landscape Contractor shall make modifications and improvements to soil mixes deemed necessary by the soil analysis to meet requirements specified here in before, and to ensure proper growing medium for plant material.

2.1 SEED

- A. All seed shall conform to all State Laws and to all requirements and regulations of the State Department of Agriculture.
- B. The varieties of seed, as specified in Section 2.2, shall be individually packaged or bagged, and tagged to show name of seed, net weight, origin, germination, lot number, and other information required by the State Department of Agriculture.
- C. The Engineer reserves the right to test, reject, or accept all seed before seeding.

2.2 SEEDING SCHEDULE

۸.	SEED		RATE	PLANTING DATES
		'Princess 77' Bermuda	75 lbs/ acre	March 1 - September 30
		Annual Rye (Temp only)	75 lbs/acre	October 1 - February 28

2.3 FERTILIZER

A. Commercial fertilizer of approved type, conforming to state fertilizer laws at the rate as recommended by soils test.

2.4 LIME

A. Agricultural grade, ground limestone at the rate as recommended by soils test.

2.5 SPRIG

A. Healthy living stems, stolons, or rhizomes and attached roots of locally adapted grass without adhering

soil, including two to three nodes and from 4 to 6 inches long. Obtain from heavy, dense certified sod. Provide sprigs which have been grown under climatic conditions similar to those in the locality of the project. Coordinate harvesting and planting operations to prevent exposure of sprigs to the sun for more than 30 minutes before covering and moistening. Sprigs showing signs of wilt, mold, containing weeds or other detrimental material or that are heat damaged will be

- B. The varieties of sprig, as specified in section 2.6, shall be individually packaged or bagged, and tagged to show name of sprig, net weight, origin and other information required by the State Department of Agriculture.
- C. Sprigs shall be pure to variety specified and shall be free of other grass species, weeds or foreign
- D. Sprigs shall be harvested by digging (not collected above soil level) shredding sod, by rototilling sod and raking, by vericutting or by a sprig harvester. Sprigs shall consist of mostly rhizomes and crowns with only a few green leaves.

2.6 SPRIGGING SCHEDULE (EDIT GRASS TYPES, RATES AND PLANTING DATES TO BE CONSISTENT WITH SPECIFIC PROJECT)

A.	<u>SPRIG</u>	RATE	PLANTING DATES	
	'Tifway 419' Bermuda (or approved equal)	1,000 bushels / ac. (Coverage in 3 months)	April 1 - August 31	
	Stabilize site with temp (See section 2.2)	orary grass seed	September 1 - March 31	

B. In areas where existing grass is to be matched, Contractor shall sprig at the rate and dates recommended by sprig distributor.

2.7 SOD

- A. Sod shall be premium grade, densely rooted, good quality grass of the species and certified variety as shown on the plans, free from noxious weeds with no surface soil being visible. The sod shall be obtained from areas where the soil is reasonably fertile. Sod of specified species with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed. The sod shall be machine cut to a uniform soil thickness that shall contain practically all of the dense root system and not be less than 1-inch thick.
- Before cutting, sod shall be moved to a height of not less that 1-1/2" or more than 2". Sod shall be cut in uniform widths min. 12" and in lengths min. 24 inches.
- C. Sod shall be delivered to site in a fresh, moist condition with healthy green foliage. It shall be unloaded from delivery trucks on pallets or rolls and placed in final position within 24 hours of delivery. Sod shall be protected from wind and sun and shall not be allowed to dry out before planting.
- D. Sod shall be strong enough to support its own weight and retain its size and shape when suspended vertically from a firm grasp on the upper 10 percent of the section.

2.8 ACCESSORIES

- A. Straw Mulch: Oat or wheat straw, reasonably free from weeds, foreign matter detrimental to plant life, and in dry condition.
- B. Excelsior Mulch: Excelsior mulch shall consist of wood fibers cut from sound, green timber. The average length of fibers shall be 4 to 6 inches. Cut shall be made in such a manner as to provide maximum strength of fiber, but at a slight angle to natural grain of the wood to cause splintering of fibers when weathering in order to provide adherence to each other and to soil.
- C. Wood cellulose fiber shall be made from wood chip particles manufactured particularly for discharging uniformly on the ground surface when dispersed by a hydraulic water sprayer. It shall remain in uniform suspension in water under agitation and blend with grass seed and fertilizer to form a homogenous slurry. Mulch fibers shall intertwine physically to form a strong moisture holding mat on the ground surface and allow rainfall to percolate into underlying soil. The mulch shall be heat processed to contain no germination or growth-inhibiting factors. It shall be dyed (non-toxic) an appropriate color to facilitate metering of material.

2.9 PRODUCT REVIEW

A. Contractor shall provide the Engineer with a complete description of all products before ordering. The Engineer will review all products before they are ordered.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Areas to be seeded or sprigged shall be made smooth and uniform and shall conform to the finished grade indicated on plans.
- B. Remove foreign materials, plants, roots, stones, and debris from surfaces to be seeded.
- C. Grassing areas, if not loose, shall be loosened to a minimum depth of 3 inches before fertilizer, seed, sprig or sod is applied.
- D. Amendments to soils shall be incorporated into loosened 3 inch top soil layer as recommended by soils test.

3.2 STAND OF GRASS

A. Before acceptance of seeding or sprigging is performed for the establishment of permanent vegetation, Contractor will be required to produce a satisfactory stand of perennial grass whose root system shall be developed sufficiently to survive dry periods and winter weather and be capable of re-establishment in spring.

Before acceptance of seeding performed for the establishment of temporary vegetation, Contractor will be required to produce a stand of grass sufficient to control erosion for a given area and length of time before the next phase of construction or establishment of permanent vegetation is to commence.

3.3 SEEDING AND SPRIGGING DATES

A. Seeding and sprigging shall be performed during periods and at rates specified in their respective schedules. Seeding and sprigging work may, at discretion of Contractor, be performed throughout the year using schedule prescribed for given period. Seeding and sprigging work shall not be conducted when the ground is frozen or excessively wet. Contractor will be required to produce a satisfactory stand of grass regardless of the period of year work is performed.

3.4 APPLYING LIME AND FERTILIZER

A. Following advance preparation and placing selected material for shoulders and slopes, lime and fertilizer, if called for based on soil tests, shall be spread uniformly over the designated areas, and shall be thoroughly mixed with the soil to a depth of approximately 2 inches. Fertilizer and lime shall be applied at the rate at the rate recommended by required soils test. Unless otherwise provided, lime will not be applied for temporary seeding. In all cases where practicable, acceptable mechanical spreaders shall be used for spreading fertilizer. On steep slopes subject to slides and inaccessible to power equipment, the slopes shall be adequately scarified. Fertilizer may be applied on steep slopes by hydraulic methods as a mixture of fertilizer and seed. When fertilizer is applied with combination seed and fertilizer drills, no further incorporation will be necessary. The fertilizer and seed shall be applied together when Wood Cellulose Fiber Mulch is used. Any stones larger than 2 ½ inches in any dimension, larger clods, roots, or other debris brought to the surface shall be removed.

3.5 SEEDING

- A. Seed shall be sown within 24 hours following application of fertilizer and lime and preparation of the seedbed as specified in Section 3.4. Seed shall be uniformly sown at rate specified by the use of acceptable mechanical seed drills. Rotary hand seeders, power sprayers or other satisfactory equipment may be used on steep slopes or on other areas inaccessible to seed drills.
- Seeds shall be covered and lightly compacted by means of cultipacker or light roller if the drill does not perform this operation. On slopes inaccessible to compaction equipment, the seed shall be covered by dragging spiked chains, by light harrowing or by other satisfactory methods.
- C. Apply water with fine spray immediately after each area has been sown.
- D. Do not sow seed when ground is too dry, during windy periods or immediately following a rain.
- E. If permitted by the special provisions, wood cellulose fiber mulch or excelsior fiber mulch may be used.

3.6 SEED PROTECTION (STRAW MULCH)

A. All seeded areas seeded with permanent grasses shall be uniformly mulched in a continuous blanket immediately following seeding and compacting operations, using at least 2 tons of straw per

3.7 SEED PROTECTION (EXCELSIOR MULCH)

A. Seed shall be sown as specified in Section 3.5. Within 24 hours after covering of seed, excelsior mulch shall be uniformly applied at the rate of 2 tons per acre. The mulch may be applied hydraulically or by other acceptable methods. Should the mulch be placed in a dry condition, it shall be thoroughly wetted immediately after placing. Engineer may require light rolling of the mulch to form a tight mat.

3.8 SEED PROTECTION (WOOD CELLULOSE FIBER MULCH)

A. After the lime has been applied and ground prepared as specified in Section 3.4, wood cellulose fiber mulch shall be applied at a rate of 1,500 pounds per acre in a mixture of seed and fertilizer. Hydraulic equipment shall be used for application of fertilizer, seed, and slurry of the prepared wood pulp. This equipment shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend, and homogeneously mix a slurry of the specified amount of fiber, fertilizer, seed, and water. The slurry distribution lines shall be large enough to prevent stoppage. The discharge line shall be equipped with a set of hydraulic spray nozzles which will provide an even distribution of slurry on various areas to be seeded. The slurry tank shall have a minimum capacity of 1,000 gallons.

Seed, fertilizer, wood pulp mulch, and water shall all be combined into the slurry tank for distribution of all ingredients in one operation by hydraulic seeding method specified herein. Materials shall be combined in a manner recommended by the manufacturer. The slurry mixture shall be regulated so amounts and rates of application shall result in a uniform application of all materials at rates not less than amount specified. Using the color of wood pulp as a quide. equipment operator shall spray prepared seedbed with a uniform visible coat. The slurry shall be applied in a sweeping motion, in an arched stream to fall like rain, allowing wood fibers to build upon each other until an even coat is achieved.

3.9 SPRIGGING

- A. Sprigs shall be placed at the date and rates as shown in section 2.6. The sprigging method shall be by broadcast sprigging, hydroplanting or row planter. Sprigging procedure shall ensure even
- B. Sprigs applied by broadcast over the site with a distributor or hydroseeder shall be planted at the rates listed in section 2.6. Cover broadcast sprigs with straw mulch immediately after broadcast and water in immediately (within 2 hours).
- Sprigs installed by row planter creating a narrow furrow that covers 50 to 80% of the sprig with soil may use less sprig material. Rate shall be as recommended by sprig supplier to provide a solid stand of turf within the time required in Section 2.6. Water in immediately (within 1 hour).

3.10 SODDING

A. Sod shall be placed between March 1st and December 1st. However, if sod is to be placed during periods of temperatures over 90 degrees F., the contractor shall take extra care for quick placement of sod with adequate, consistent watering necessary to ensure sod thrives as planted.

- B. Sod shall be placed within 24 hours of cutting.
- C. Place top elevation of sod 1/2 inch below adjoining paving or curbs.
- D. All areas to be sodded shall be brought to the proper line grade or cross section as was existing prior to construction. Sod shall be placed so that, upon completion, the edges of the sodded areas will be smooth and will conform to the proposed finished grade. Sod shall be laid smooth, edge to edge, with staggered joints. Sod shall be immediately pressed firmly into contact with the sod bed by tamping or rolling, to eliminate any air pockets. A true and even surface shall be provided, to insure knitting without displacement of the sod or deformation of the surfaces of the sodded areas. Do not stretch or overlap sod pieces. Following compaction, screened soil of good quality shall be used to fill all cracks, and excess soil shall be worked into the grass with rakes or other suitable equipment. On slopes steeper than 3 to 1, the sod shall be fastened in place with suitable wood or metal pins to hold the sod in place. Any damage by erosion or other causes that may have occurred after completion of grading operations shall be repaired, before commencing with the sodding operations.
- Immediately before sodding, moisten topsoil with a fine spray to a minimum 1" depth. Sod shall not be laid on soil that is dry and powdery.
- Sod shall be moist when laid and placed on moist ground. The sod shall be carefully placed by hand, beginning at the toe of slopes and working upwards. The length of the strips shall be at right angles to the flow of surface water. All joints shall be tightly butted and end joints shall be staggered at least 12 inches. The sod shall be immediately pressed firmly into the ground by tamping or rolling. Fill all joints between strips with fine screened soil. Sod on slopes shall be pegged with sod pegs to prevent movement. The sod shall be watered, mowed, weeded, repaired, or otherwise maintained, to insure the establishment of a uniform healthy stand of grass until acceptance.
- G. Within 2 hours after sod has been placed, thoroughly water to a minimum depth of 4". After sod and soil have dried, roll sodded areas to ensure good bond between sod and soil and to remove depressions and irregularities. Roll sodded areas with a roller not exceeding 150 lbs. per foot of roller width. Top dress and roll again as necessary to create a smooth even surface.

PART 4 - MAINTENANCE, WARRANTY AND ACCEPTANCE

4.1 MAINTENANCE

- A. Maintenance shall consist of providing protection against traffic, watering to ensure uniform seed germination and to keep surface of soil damp, and repairing any areas damaged as a result of construction operations or erosion. Maintenance shall also include, but is not limited to, watering, weeding, cultivating, removal of dead material, lawn mowing, fertilizing, and other necessary
- The Contractor shall maintain all proposed plantings until the date of final acceptance by the Owner.

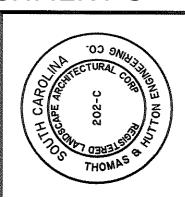
4.2 WARRANTY

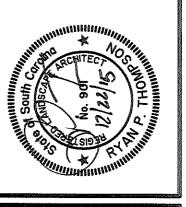
- A. All grassed areas shall be guaranteed by the Contractor to be alive and healthy for a one year period from the date of substantial completion issued by the Owner. A final inspection with the Owner shall be conducted at the end of the warranty period to determine if any areas require replanting. At the end of the warranty period, the sod shall show evidence of rooting to the underlying soil and shall have no competitive weed growth from either the sod or from between the sod joints.
- B. Any grassed area which is dead or not showing satisfactory growth shall be replaced at Contractor's expense at the end of warranty period. All replacements shall be of original quality and of a size equal to adjacent plants or trees of the same kind. Replacements required because of vandalism, excessive use or other causes beyond the control of the Contractor are not part of this contract.

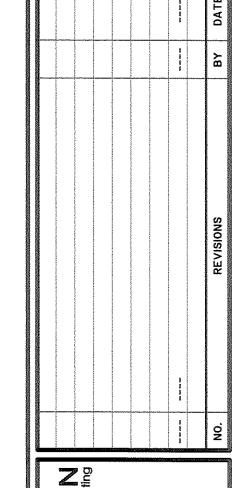
4.3 ACCEPTANCE

- A. Before acceptance of seeding performed for the establishment of permanent vegetation, Contractor will be required to produce a satisfactory stand of perennial grass whose root system shall be developed sufficiently to survive dry periods and winter weather and be capable of reestablishment in spring.
- B. A minimum coverage of 80% density over 100% of the disturbed area is required for seeded areas before project acceptance. Spria and sod areas shall have 95 % coverage over 100% of the disturbed area prior project acceptance.

END OF SECTION







DEALERSHIP

ADEN NISSAN I

>

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NE

DRAWN: RPT DESIGNED: RPT REVIEWED: SKM APPROVED: RPT

SCALE: N.T.S.

ATTACHMENT 6



EDGE OF 50' BUFFER

ENTRANCE

J35 + 2.4 + 2.3 J5s MH: 20

2.3 2.2 2.1

2.3 2.2 2.1

1.7 1.6 1.5

DIRECTIONAL 1.6 1.4

[†]3.0 [†]2.9 [†]2.8 [†]2.4

 $\dot{3}.5$ $\dot{3}.7$ $\dot{3}.7$ $\dot{3}.1$

4.1 4.5 4.3 3.9

[†]3.2 [†]4.1 [†]4.5 [†]4.6 [†]4.0

 $\begin{bmatrix} 1.9 & 2 & 6 & 3.3 & 3.9 & 4.0 & 3.5 \end{bmatrix}$

1.8 2.5 3.3 4.0 4.1 3.8

1.9 ½ .8 3.9 4.5 4.8 2|5⁴.3

[†]2.0 [†]2.8 [†]3.7 [†]4.5 [†]4.2

2.4 3.0 3.4 3.5 3.2 2.8

2.7 3.4 4.0 3.9 3.3 2.7

3.0 3.9 4.4 4.4 3.7 2.9

 3.1
 3.5
 3.5
 3.2

[†]3.6 [†]2.7

[†]2.9 [†]2.3

2J5 MH: 25

SERVICE ENTRY

- TILE AT ENTRY 1.6 1.5 1.4

US HIGHWAY 278 R/W VARIES

J4 MH: 20

 $\frac{1}{3.5}$ $\frac{1}{4.0}$ $\frac{1}{4.4}$ $\frac{1}{4.7}$ $\frac{1}{4.7}$ $\frac{1}{4.5}$ $\frac{1}{4.7}$

 $\begin{bmatrix} 2.4 & 2.7 & 2.8 & 2 & 9 & 3.3 & 4.6 \end{bmatrix}$

MH: 25

[†]3.0 | [†]3.0 | [†]2.6 |/

[†]3.1 | [†]3.0 | [†]2.7

2.9 2.9 3

J5 — MH: 25

STREET

J4 MH: 20

8 + 3.5 = 3.8 + 4.2 + 4.6 = 4.8 + 5.0 + 5.1 + 5.0 + 5.0 + 4.8 + 4.9 + 4.2 + 3.8 + 3.4 + 3.3 + 3.6

IREDI CUSTOMNER PARKING

4.**\$IGNAGE ON**⁴**A\$PHAL**? /3.8 3.1 2.5 /2/2 2.0 1

CUSTOMER PARKING
3.9
3.4
2.8
2.6
2.6
2.5

그 호텔 3.6 4.1 4.6 4.1 3.5 3.2 LMPLOYEE & SERVICE PARKING 4.5 3.8 2.8 2.2 2.0 1.9 1.8 1.7 1.6

- INVENTØRY PARKING

2.1 2.3 2.6 2.9 3.1 3.6 4.5 5.0 5.1 5.3 5.3 5.2 5.0 4.8 4 3 <math>3.5 2.8 2.6 2.4 2.3

∬ J4 MH: 20

 $\frac{1}{3}.1$ $\frac{1}{2}.5$ $\frac{1}{2}.3$

[†]3.6 [†]2.6 [†]2.2

 $\frac{1}{3}.5$ $\frac{1}{2}.6$ $\frac{1}{2}.3$ $\frac{1}{2}.3$

AREA LIGHTING: JUNO ALARI LED, 4000°, TYPE III, OR FT.
MIN MTG AT 20′ MAX MT AT 30′. LIGHTING LEVELS
REQUIRED: ENTRANCES FROM HWY 278:
.2FC MIN, AVE-1FC MAX-10FC. AREAS FOR DISPLAY
OF OUTDOOR MERCHANDISE: 1FC MIN, 5FC AVE,
15FC MAX REFER TO PARA. C OF CRITERIA FOR
ADDITIONAL REQUIREMENTS POINT BY POINTS
BASED ON A 10′ GRID, HOUSE SHIELDS/CUTOFFS
AT PERIMETERS OF SITE.

Luminaire Schedule											
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description	Lum. Watts	Lum. Lumens			
-	4	J4	SINGLE	N.A.	0.900	Juno A2-B15-4K-un-ft-A2HSS	172.7	11166			
-	I	J3	SINGLE	N.A.	0.900	JUNO A2-B15-4K-UN-3	173.1	12709			
-	10	J5	SINGLE	N.A.	0.900	JUNO A2-B15-4K-UN-5	171.7	13137			
	8	2J5	BACK-BACK	N.A.	0.900	JUNO 2 A2-B15-4K-UN-5	171.7	13137			
-	3	J2	SINGLE	N.A.	0.900	JUNO A2-B15-4K-UN-2	171.9	14209			
->	4	J5s	SINGLE	N.A.	0.900	JUNO A2-B06-4K-UN-5	72.07	5621			

Calculation Summary										
Label	СаІсТуре	Units	Avg	Max	Min	Avg/Min	Max/Min			
CUSTOMER PARKING	Illuminance	Fc	5.17	8.1	2.9	1.78	2.79			
EMPLOYEE SERVICE PARKING	Illuminance	Fc	3.10	6.2	1.2	2.58	5.17			
entrance	Illuminance	Fc	2.26	2.5	2.0	1.13	1.25			
INTERIOR DRIVE PATH	Illuminance	Fc	3.75	7.7	1.8	2.08	4.28			
INVENTORY	Illuminance	Fc	4.17	9.1	1.8	2.32	5.06			
SERVICE ENTRY	Illuminance	Fc	2.93	4.8	1.4	2.09	3.43			
STREET	Illuminance	Fc	0.23	0.9	0.0	N.A.	N.A.			

Heitmann Associates

ROY V. HEITMANN GA. LIC. NO. 9272

5102 PAULSEN ST. BUILDING #8 31405 SAVANNAH, GEORGIA

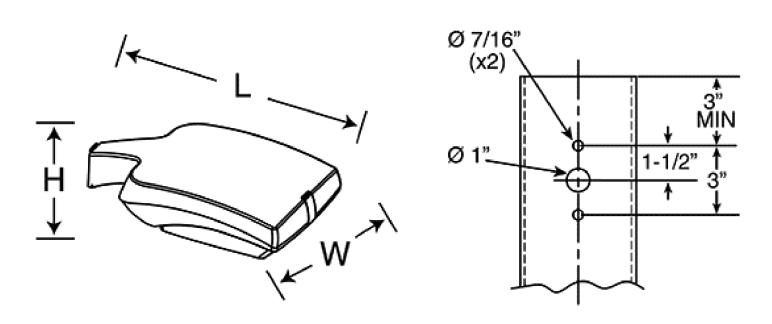
TEL 912-352-1505 FAX 912-352-3505

NEW CONSTRUCTION FOR:

VADEN INFINITI

BLUFFTON SOUTH CAROLINA

	EPA	L	W	Н	Weight
A2 Series	1.2 ft ²	32"	18 5/8"	7 9/16"	52 lb.



revisions
scale:

1" = 20'-0"

dwn:

chk:

Comm. no.

3115

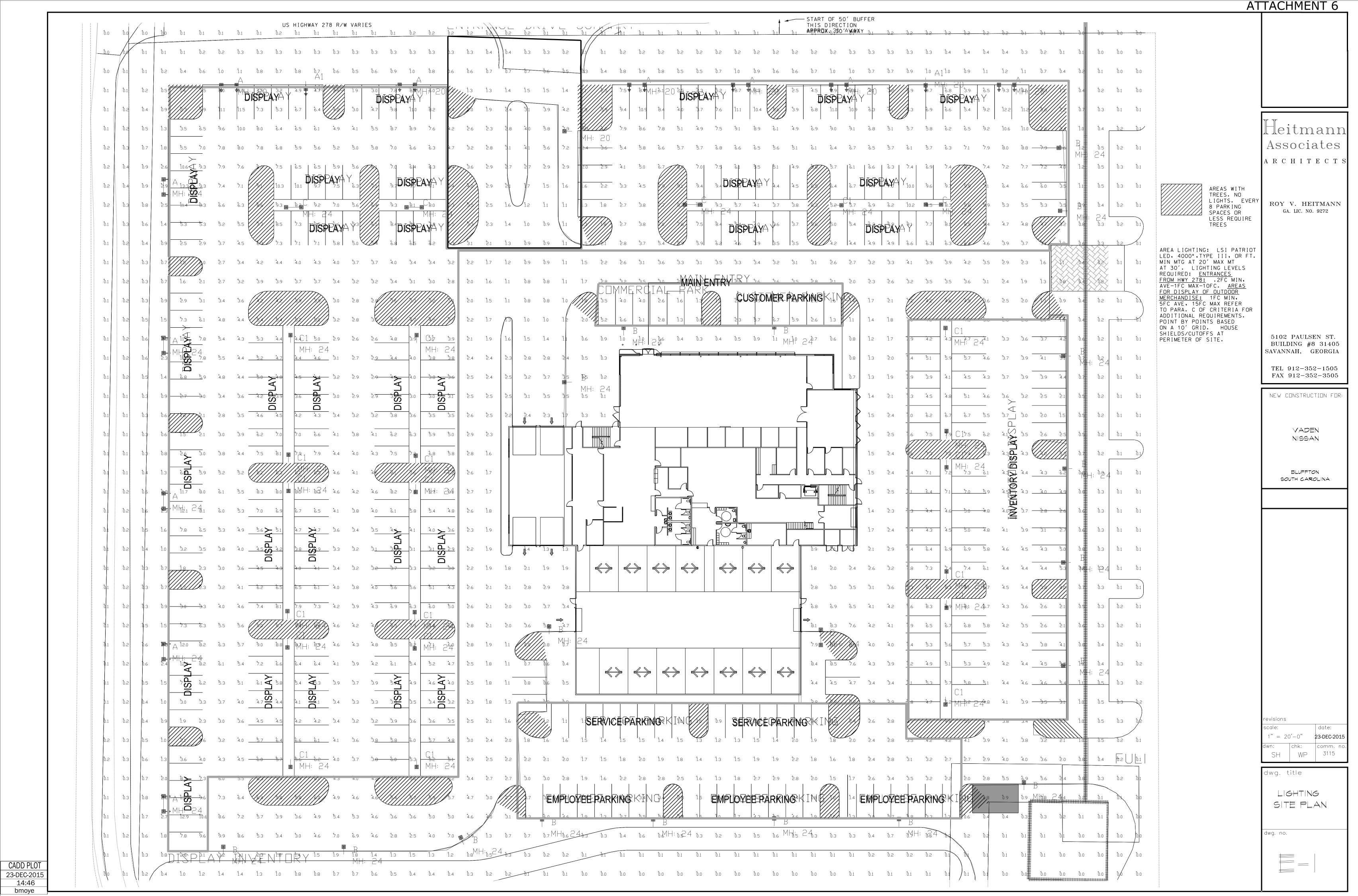
dwg. title

LIGHTING

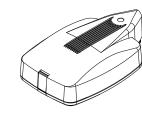
SITE PLAN

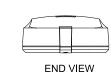
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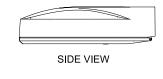


XPT3 LED Crossover Area Light





PERSPECTIVE VIEW



COSSOVER®

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Ma×/Min
ALL CALCS @ 4' ABOVE GRADE	Illuminance	Fc	1.95	13.3	0.0	N.A.	N.A.
COMMERCIAL PARK	Illuminance	Fc	2.45	6.7	0.8	3.06	8.38
DISPLAY INVENTORY	Illuminance	Fc	5.43	13.3	1.1	4.94	12.09
ENTRANCE DRIVE SUMMARY	Illuminance	Fc	2.50	7.9	0.2	12.50	39.50
FULL SITE SUMMARY	Illuminance	Fc	4.58	13.3	0.6	7.63	22.17

Luminaire Sc	chedule							
Symbol	Qty	Label	Arrangement	Description	LLF	Lumens/Lamp	Arr. Lum. Lumens	Arr. Watts
₩→	11	А	D180° 2RTD	XPT3-FT-LED-128-450-CW-UE-HSS-D180ROT	0.900	N.A.	19246	376
_	2	A1	SINGLE	XPT3-FT-LED-128-450-CW-UE-HSS-SINGLE	0.900	N.A.	9623	188
	19	В	SINGLE	XPT3-FT-LED-128-450-CW-UE-HSS-SINGLE-24' MH	0.900	N.A.	9623	188
	5	С	D180°	XPT3-5-LED-128-450-CW-UE-D180-24' MH	0.900	N.A.	28756	374
	19	C1	SINGLE	XPT3-5-LED-128-450-CW-UE-SINGLE-24' MH	0.900	N.A.	14378	187

Heitmann Associates

ARCHITECTS

ROY V. HEITMANN ga. lic. no. 9272

5102 PAULSEN ST. BUILDING #8 31405 SAVANNAH, GEORGIA

TEL 912-352-1505 FAX 912-352-3505

NEW CONSTRUCTION FOR:

BLUFFTON SOUTH CAROLINA

VADEN NISSAN

revisions

SCHEMATIC 23-DEC-2015

dwn: chk: comm. no
SH WP 3115

LIGHTING SUMMARY AND SCHEDULE

dwg. title